

Claudio Mazza

This volume, result of over 15 years' research and scientific studies, identifies the ideal nutraceutical solutions for restoring and maintaining an optimum state of health according to **Physiological Nutraceuticals**.

This innovative concept is based on the principle that, together with a correct lifestyle and diet, nutrients and dietary supplements are the elective "treatment" tools to prevent the triggering of pathological conditions, to promote physiological balance and to counteract ageing processes.

The combination of the 6 pillars of Physiological Nutraceuticals has led to the development of many efficacious dietary supplements that now make possible a modern approach to health based on nutraceutical intervention that:

- by acting primarily on the digestive system, create a context that is beneficial to the whole organism;
- by controlling intestinal inflammatory processes control low-grade chronic systemic inflammation, the "mother" of all disease;
- by maintaining the integrity of the mucosa, maintain the PNEI balance of the digestive system and, with it, that of the whole body.

Lastly, in addition to a number of suggestions on correct lifestyle, a simple procedure is illustrated for the primary prevention of intestinal functional disorders: the rule of the 3Rs (Rebalance, Repair and Replace).

The publication addresses all those doctors, researchers and healthcare professionals who seek rational answers that are consistent with this new and fascinating nutrition science paradigm.

€ 16,00

THE SIX PILLARS OF HEALTH

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PHYSIOLOGICAL NUTRACEUTICALS  
THE NEW PARADIGM OF NUTRACEUTICALS



 **NUOVA IPSA  
EDITORE**

Claudio Mazza

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## Preface

The term “**nutraceutical**” has been used since the early 1990s to define the branch of medicine that involves and studies the beneficial and therapeutic action of foods on human health.

From an etymological standpoint, ‘nutraceutical’ is a *portemanteau* of ‘nutrition’ and ‘pharmaceutical’, which summarises the profound meaning of this modern field of medicine: food can be the first efficacious therapeutic solution.

*Let food be thy medicine  
and medicine be thy food*

Some 2,500 years have passed since this enlightened statement was made by Hippocrates of Cos.

And yet it would seem that no claim has ever been truer.

The aphorism by the father of medicine is supported by the progress made in the field of molecular biology over the past fifty years that have made it possible to understand the profound mechanisms by which the active ingredients contained in foods affect our wellbeing and health. These active ingredients in foods can constitute a tool of primary prevention for a great many diseases and an efficacious complementary therapy in the treatment of a broad spectrum of diseases.

Nutraceuticals has allowed us to understand the relationships between biology, chemistry and medicine and to recognise the aetiopathogenetic relationships between lifestyle, dietary habits, health and disease.

Over the last decade, the progress achieved by **physiological regulating medicine**, and in particular the definition of the mechanisms of the action of *low doses* of cytokines, hormones, growth factors and neuropeptides, have urged researchers to direct their interest and research towards studying and understanding the relationship that exists between nutrients and messenger molecules in guiding physiology.

The encounter between physiology, molecular biology and nutraceuticals led to the foundation of **Physiological Nutraceuticals**, the most modern expression of nutritional science.

The volume *The Six Pillars of Health. Physiological Nutraceuticals – The New Paradigm of Nutraceuticals* presents the scientific community with a synthesis of the methodological *corpus* that forms the basis of Physiological Nutraceuticals, of which it represents an authentic manifesto. Founded on six pillars (**Superorganism – P.N.E.I. – Homeostasis – The Central Role of the Intestine – Microbiome – Inflammation**), the methodological system of Physiological Nutraceuticals becomes, through its dietary supplements, an efficacious coadjuvant to therapy and a modern approach to holistic health.

Indeed, the combination of the six pillars of Physiological Nutraceuticals has led to the development of new dietary supplements which are the expression of innovative Italian research in the nutrition and herbal supplementation fields, and represent the quintessence of the nutraceutical product, at the same time both a food and a 'medicine'.

Conceived and manufactured with the most stringent selection of raw materials, thorough research, basic and clinical trials, and rigorous efficacy and safety tests, the products represent a unique and essential tool for the development and implementation of this new paradigm of health, wellness, prevention, anti-ageing and treatment.

*The Six Pillars of Health. Physiological Nutraceuticals: The New Paradigm of Nutraceuticals* is more than a mere 'method', rather it offers practitioners a true, flexible and practical work tool

- The Guide to use section indicates, for various medical conditions, the nutraceutical proposal indicating the most suitable supplements, their dose and recommended administration protocol.
- The Physiological Nutraceuticals Guna dietary supplements section provides information on the products' characteristics, administration regimens, nutritional tables, fields of application and much more.
- In the *The research* section, users can consult abstracts and view tables and charts showing the results of the preclinical and clinical trials conducted on Guna dietary supplements.

With Physiological Nutraceuticals, nutritional science takes a further leap forward.

With this Volume which is the result of more than fifteen years of research and studies and the starting point for the future development of this important branch of medical science, I wish to share with all doctors, researchers and health professionals the birth and evolution of an exciting 'new science'.





## **Author's biography**

Claudio Mazza was born in Agrigento in 1949. He graduated in medicine from the University of Palermo and currently lives and works in the same city. He specialised in homeopathy under the supervision of F. Negro and in homotoxicology c/o the AIOT – Italian Medical Homotoxicology Association. He has lectured in iridology and homeopathy at the Italian Homeopathic Foundation in Naples and for the AIOT, in various sites. For over thirty years he has dedicated his work to the publishing sector, translating and editing volumes that are considered milestones in the natural and emerging medicines field, disciplines such as P.N.E.I., Nutraceuticals, Mesotherapy, Quantum Medicine, etc.



## **Index of abbreviations**

COPD	Chronic Obstructive Pulmonary Disease
CRH:	Corticotropin-Releasing Hormone
FOS:	Fructooligosaccharides
GABA:	Gamma-Aminobutyric Acid
GN-RH:	Gonadotropin-Releasing Hormone
GALT:	Gut-Associated Lymphoid Tissue
GBA:	Gut-Brain Axis
HPA:	Hypothalamic-Pituitary-Adrenal Axis
IBD:	Inflammatory Bowel Disease
IBS:	Irritable Bowel Syndrome
RRI:	Recurrent Respiratory Infections
MALT:	Mucosa-Associated Lymphoid Tissue
NAC:	N-Acetylcysteine
GMO:	Genetically Modified Organism
ENT:	Ear, Nose, Throat
P.N.E.I.:	Psycho-Neuro-Endocrino-Immunology
CNS:	Central Nervous System
ANS:	Autonomic Nervouse System
SOD:	Superoxide Dismutase
TIA:	Transient Ischaemic Attack
TJs:	Tight Junctions
CFU:	Colony-Forming Unit
BVP:	Biological Value of Protein





*All truth passes through three stages:  
First, it is ridiculed;  
Second, it is violently opposed;  
Third, it is accepted as self-evident*

Arthur Schopenhauer (1788-1860)



## PHYSIOLOGICAL NUTRACEUTICALS

### -From creative Italian research-

Nutrition, one of the most important factors for achieving and maintaining good health, is of fundamental importance to wellness and a decisive element in the dynamics of ageing processes.

In the field of modern medicine, it is impossible to refute the importance of the role played by food in determining conditions of health and states of disease

There can be no health without a correct diet

However, the application of this evidence is not so simple.

The fathers of clinical nutrition teach us that there is nothing more difficult than changing the dietary habits of the general public. No Italian mother would deny her “*bambino*” a “nice plate of pasta”, her American counterpart will bring her children up eating hot dogs and completely different dishes will be served up, for example, on an Arabian table. When it comes to food, each population has its own, unshakeable cultural certainties, that do not always coincide with physiological requirements.

However, there are rules – the only truly universal ones, shared by different peoples and countries and that go beyond cultural superstructures: **the laws of Nature and Physiology.**

It is precisely from this inspiration of the laws of Nature and the principles of **Physiological Nutraceuticals**, in other words, ‘nutrition that follows the logic of Nature and human physiology’, that the therapeutic method known as **Physiological Nutraceuticals** was developed.



Physiological Nutraceuticals is based on the principles of integrity, vitality, quality, balance, personalisation and respect for each human being.

**Guna dietary supplements** are formulated and manufactured in observance of these principles.

The nutritional principles contained in Guna dietary supplements are studied to guarantee each individual an ideal, balanced intake of the various nutrients, according to his or her deficiencies and/or needs: from amino acids to vitamins, from polyunsaturated fatty acids to trace elements, etc.

These innovative dietary supplements, which have been developed according to the principles of Physiological Nutraceuticals, favour the control of physiological functions and the regulation of the metabolic circuits that underlie health.

A new page on health and disease prevention is being written, one that will also have important socioeconomic repercussions. Metabolic-based disease prevention, through the adoption of healthy lifestyles, through a correct diet and thanks to the beneficial action of the active ingredients contained in foods, can drastically reduce the incidence amongst the population of conditions such as metabolic syndrome, overweight, type 2 diabetes, inflammatory bowel disease or conditions such as chronic fatigue syndrome, *gluten sensitivity*, etc.

## PHYSIOLOGICAL NUTRACEUTICALS

### Definition

**Physiological Nutraceuticals** is the most modern and innovative expression of Nutritional science.

It is based on the principles of **human physiology** and developed following the most recent discoveries in the field of **molecular biology** and in the **P.N.E.I.** (psycho-neuro-endocrino-immunology) domain.

### Vision

It is based on the concept that, together with a correct lifestyle and diet, nutrients and dietary supplements are the first 'therapeutic' tools for:

**Preventing the onset of pathological conditions**  
(*primary prevention* instrument)

**Supporting physiological balance** (*wellness* instrument)

**Countering ageing processes** (*anti-ageing* instrument)

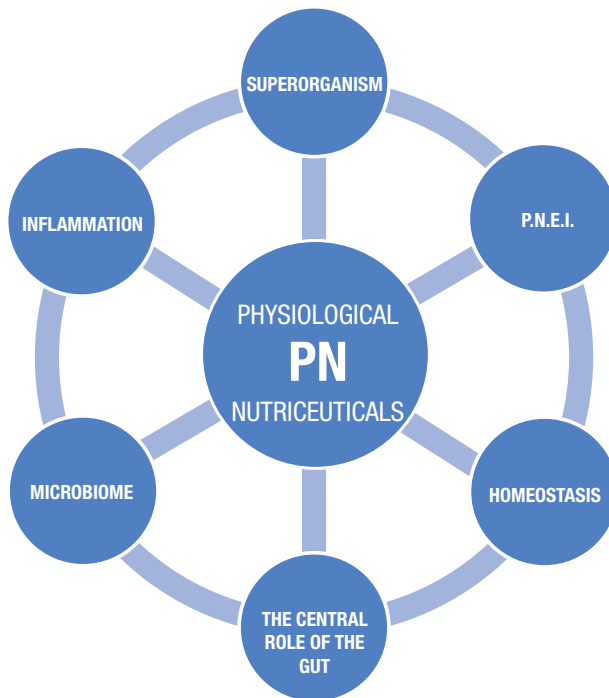
**Acting on pathological conditions** (*coadjuvant therapy* instrument).



## SYNOPSIS

**Physiological Nutraceuticals** is based on six conceptual pillars:

- Superorganism
- P.N.E.I.
- Homeostasis
- The Central Role of the Gut
- Microbiome
- Inflammation



The physiological status of an organism (today more correctly termed **superorganism**, indicating the mutual relationships between bacteria and cells) coincides with the condition of homeostasis, in which vital parameters are maintained within a precise and defined range and whose upward or downward movement is identified with disease.

Control over bodily functions, and therefore over vital parameters, is primarily exerted by the CNS (Central Nervous System), by the ANS (Autonomic Nervous System), the endocrine system and the immune system that, together constitute the **P.N.E.I. network**.

A disturbance to the P.N.E.I. equilibrium represents the pathogenetic onset of disease. A significant quantity of endogenous and exogenous stressors (amongst which an increasingly important role is played by non-organic food, GMOs or processed food in general) disturb the equilibrium of **homeostasis**, and the P.N.E.I. system's adaptation capacity is not always able to absorb the harm they cause.

One organ system (the gastrointestinal system) above all others and one organ (the **intestine**) in particular, represents an authentic P.N.E.I. microcosm, acting as a homeostatic controller over the entire organism. Indeed, the intestinal mucosa has nervous (it secretes neuropeptides and neurohormones), endocrine (it secretes hormones) and immune (it secretes cytokines) functions and it is closely connected to other organs, tracts and systems: it therefore goes without saying that an intestinal level disturbance not only involves this organ, rather it inevitably has systemic repercussions. For example, the relationship between the intestine and the brain (through the GBA – gut-brain axis), is a two-way relationship in which the emotions, through the stress pathway, are able to alter intestinal function, which, in turn, is able to condition nervous function and even behaviour.

In this relationship, as in that between the intestine and the immune system, a key role is played by the **gut microbiota**.

As mentioned above, today we cannot consider the human body without taking into consideration its relationships with the gut flora. Qualitative and quantitative alterations in the gut flora can represent the onset of localised diseases characterised by alterations in the mucosa's permeability (IBD, Inflammatory Bowel Disease); IBS (Irritable Bowel Syndrome); gluten sensitivity, leaky gut syndrome, as well as extra-intestinal conditions, such as autism spectrum disorders, anxious-depressive syndrome, Alzheimer's disease, type-2 diabetes, obesity, psoriasis, rheumatoid arthritis, COPD (Chronic Obstructive Pulmonary Disease) and RRI (Recurrent Respiratory Infections).

These diseases share a common element: **inflammation**; in particular, low-grade chronic inflammation, a silent killer, whose evolution leads to mucosal damage and, in turn, to loss of the homeostatic controller function exerted by the intestine.

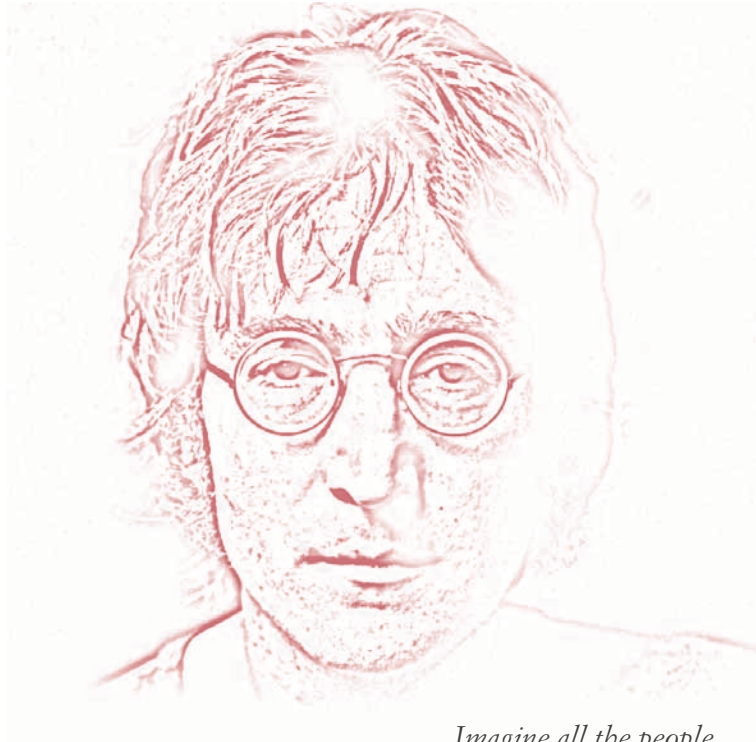
The delicate intestinal mucosa is constantly attacked by inflammatory triggers of various kinds: stress, medicines, food. The dramatic increase in the incidence of infantile disability, anxious-depressive syndromes, coeliac disease or metabolic disorders is common to large portions of the world's population and has a growth curve parallel to the **processed food** intake trend. To overlook this element is to overlook scientific evidence and deny the role of preventative medicine by controlling inflammatory bowel disorders and restoring the efficiency of the junction system, and with it the integrity of the mucosa, is not only one of the essential therapeutic steps in the treatment of inflammatory gastrointestinal disorders, rather it coincides with control over systemic inflammatory processes and therefore the first and most important prevention of chronic degenerative and age-related diseases.

In this volume, we will examine the nutraceutical solutions that are ideal for restoring and maintaining an optimum state of health according to  
**Physiological Nutraceuticals**

**The combination of the six pillars of Physiological Nutraceuticals has led to the development of innovative new dietary supplements, that allow a modern approach to health based on nutraceutical intervention that:**

- **by acting primarily on the gastrointestinal system, makes it possible to act on the whole body;**
  - **by controlling inflammatory processes in the intestine, makes it possible to control systemic low grade chronic inflammation - the 'mother' of all disease;**
  - **by maintaining the integrity of the mucosa, makes it possible to maintain the P.N.E.I. equilibrium of the digestive tract and, ultimately, the whole body.**
-





*Imagine all the people  
living life in peace.  
You may say I'm a dreamer, but  
I'm not the only one.  
I hope someday you'll join us,  
and the world will be as one.*

**John Lennon (1940-1980)**

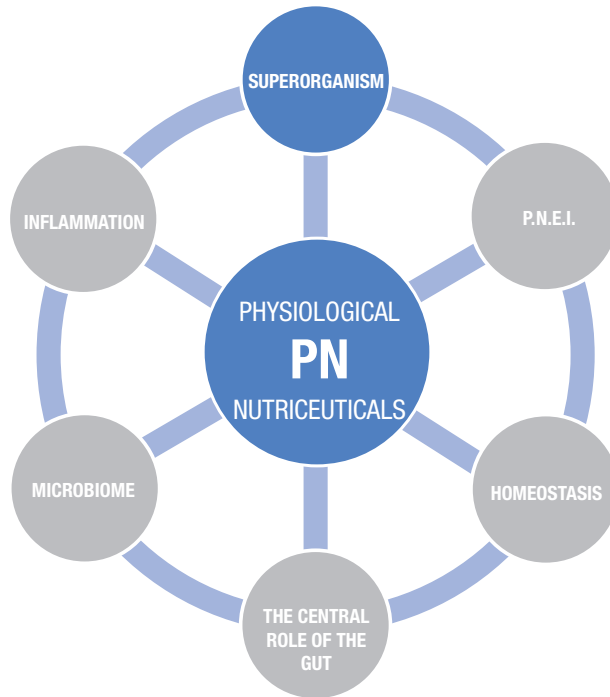




## THE SUPERORGANISM

### Key words:

*cell network, ecosystem, environment, bacteria, neuro-immuno-endocrine homeostasis*



### 40,000 billion

It used to be thought that every one lived an autonomous and independent life or, at the very most, together with similar cells, that we were organised into tissues and organs. We later understood the relationships and interdependences between cells and the incredible network that, as in the most sophisticated chatrooms, constitutes the mutual relationship between each cell and all the others. Eventually, we understood that this network is an open system, i.e. it interacts with the environment, and discovered that gene expression can be influenced by external stimuli. And then just when we were starting to have some convictions about how our body<sup>2,3</sup> was made up and worked, we discovered that we were not alone, rather we host (or are hosted by?) a number of bacteria **2.7 times** higher than the total number of cells of the human body, and that we are not more only an organism but a **superorganism**<sup>4</sup>.

From a social point of view, no man is an island and this is even more true from a biological point of view; important symbiotic relations are established between the cells and the bacterial population.

The superorganism is a perfect machine, in which one part (the cells or bacteria) does not prevail over the other, rather each one is indispensable to its counterpart; a machine in which the mixture of bacteria plays an essential role and in which continuous variation is surprisingly important.

Indeed, symbiotic relations can express superior new evolutionary potential as, thanks to them, whole **new metabolic pathways** and functions can be acquired, to the advantage of the participants in the symbiotic relationship. Suffice to think, amongst the many such examples, of the role played by *Helicobacter pylori*: less than twenty years ago, we used to say that “the only good *Helicobacter pylori* is a dead one”, it had to be eliminated as quickly as possible and no one stopped to consider the consequences that this could have. A decade later, we discovered that *Helicobacter pylori* is neither “good” nor “bad”, rather, it can be both, depending on its load and, to an even greater extent, on the symbiotic relationships it establishes with the other bacteria in the microbiota and with the immune system cells associated with the mucosae. It can cause gastroduodenitis, however it is also fundamental in controlling ghrelin after meals, so that it does not continue to “push” indiscriminately on the hypothalamic hunger centres.

In 1988, Martin J. Blaser of the Department of Microbiology at the New York University School of Medicine published, in the British Medical Journal, the first article questioning whether *Helicobacter pylori* is actually harmful; he wrote: “it is true that bacteria make us ill, but things are not as simple as that, because without many of these microorganisms we would be unable to survive”.

One emblematic example is the “**affair appendix**”, which was for a long time considered useless and was considered nothing more than a **useless dead end** for decades.

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<sup>2</sup> Cader MZ, et al. - Recent advances in inflammatory bowel disease: mucosal immune cells in intestinal inflammation. *Gut*. 2013 Nov; 62(11): 1653-64.

<sup>3</sup> Li H. et al. - Cometabolism of microbes and host: implications for drug metabolism and drug-induced toxicity. *Clin Pharmacol Ther*. 2013 Nov; 94(5): 574-81.

<sup>4</sup> Sleator RD. - The human superorganism - of microbes and men. *Med Hypotheses*. 2010 Feb; 74(2): 214-5.

<sup>5</sup> Blaser MJ. - *Helicobacter pylori* and gastric diseases. *BMJ*. 1998; 316(7143): 1507-10.

Recent discoveries<sup>6</sup> have given it a completely new meaning: the appendix is now thought to act as a **“bacterial reservoir”**: a great number of complex **“good” bacteria colonies**, grow on its inside walls, ready to repopulate the entire intestine, were an infection to destroy the gut flora.

The superorganism concept, which is now taught to medical students, expresses this fundamental principle of nature, the essential cohabitation between cells and bacteria, that is pivotal for life. It is the affirmation of the vision of the Human System as a complete **ecosystem**, relating to the external environment, governed by a **neuroimmunoendocrine network** and regulated by **fine-control homeostatic mechanisms** on which food and nutrients may interfere profoundly, in both a negative (cause of illness) and positive (“treatment” instrument) manner and in which dietary supplementation can play a decisive role for the maintenance or restoration of physiological homeostasis

**Physiological Nutraceuticals studies the human body and the interactions that dietary supplements can have on it, both in causing pathological conditions (non-organic and “junk” food) and in restoring the “superorganism” system, from a pathological condition to its original physiological homeostasis (Physiological Nutraceuticals dietary supplements).**

<sup>6</sup> Randal Bollinger R. *et al.* - Biofilms in the large bowel suggest an apparent function of the human vermiform appendix. *J Theor Biol.* 2007; 249(4): 826-31.





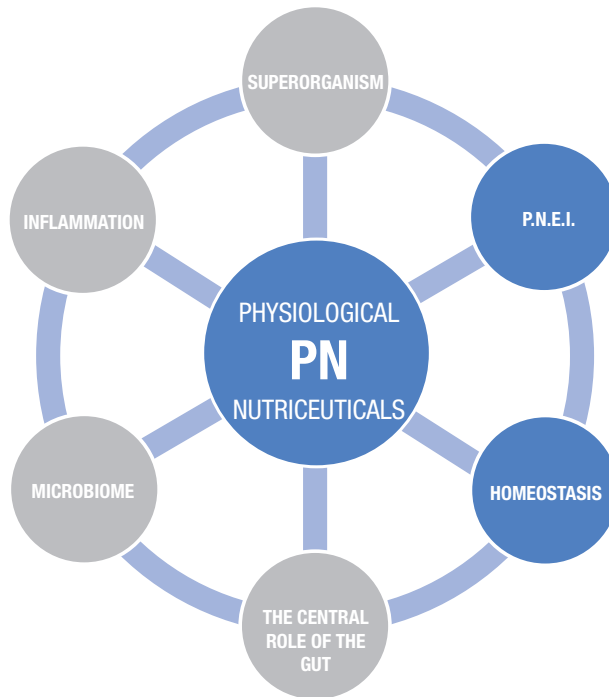
*The greatest truth must be recognition  
that in every man, every child,  
is the potential for greatness*  
Robert Kennedy (1925-1968)



## P.N.E.I. – HOMEOSTASIS

### Key words:

P.N.E.I. system, homeostatic regulation, intestine, controller function, hormonal disruption (endocrine interference)



### Why Physiological Nutraceuticals?

Physiological Nutraceuticals is based on an apparently obvious medical concept: restoring a sick organism to its original physiological conditions, or maintaining the same physiological conditions in a healthy organism, thanks to the active ingredients contained in certain foods or in medicinal plants (which are associated in specific ways in Guna Physiological Nutraceuticals dietary supplements), able to interact with the metabolic functions that maintain the body's **homeostasis**\*.

It could be said that homeostasis, physiology and health are three ways of saying the same things.

These delicate homeostatic control mechanisms are overseen by the **P.N.E.I. system**. (Fig. 1)

\* **Homeostasis:** organism's ability to keep its internal chemical and physical conditions (for example vital parameters: temperature, pH, oxygenation and glycaemia) constant within a physiological range, even when external environmental conditions change.



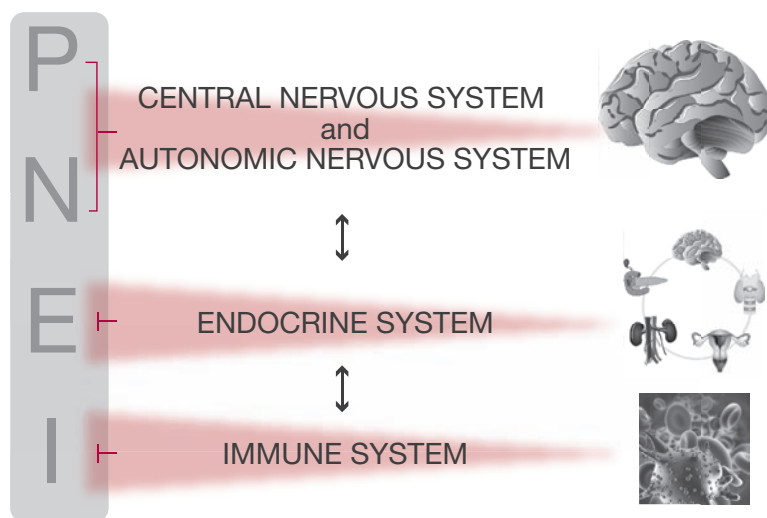


Fig.1

*Schematic representation of the P.N.E.I. axis: the three homeostatic regulation systems intertwine to guide physiological processes along a descending (psycho-somatic) and ascending (somatic-psycho) path mediated by messenger molecules (neuropeptides, hormones and cytokines).*

The P.N.E.I. system is a complex network in which the three great homeostatic regulation systems (CNS and ANS, Endocrine System and Immune System) intertwine to guide physiological functions. They work together, through molecular signalling (neuropeptides, hormones and cytokines) and negative and positive feedback control mechanisms, to constantly monitor and adjust the vital parameters, playing a fundamental adaptive action in the relationship between the living organism and external environment<sup>7, 8</sup>.

The P.N.E.I. system can be considered a kind of “Big Brother” that controls the homeostatic mechanisms and, ultimately, the physiological set up. (Fig. 2)

Each change in physiology should be considered a change along the entire P.N.E.I. axis. Suffice to think of conditions such as stomach ulcers, in which the mucosal lesion is merely the epiphenomenon of a more general imbalance involving all three systems, or a cancer in which the patient’s immune deregulation is partly a consequence of hyperactivation on the stress axis or, again, of conditions such as depression, IBDs and autism, to name but a few.

<sup>7</sup> Ader R. - *Psychoneuroimmunology*, IV edizione, voll. 1 e 2, Academic Press, Amsterdam 2007.

<sup>8</sup> Mayer E.A., Saper C.B. - *The biological basis for mind body interactions*, Elsevier, Amsterdam, 2000.

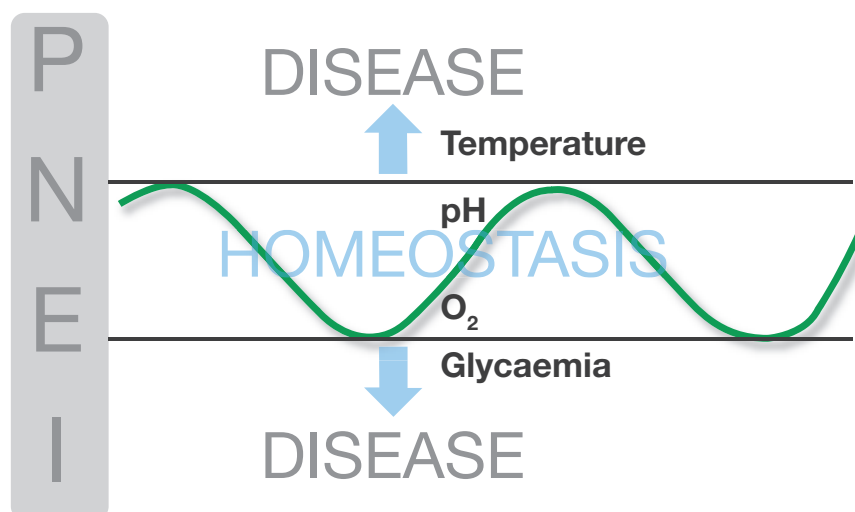


Fig.2

*Schematic representation of the relationships between the P.N.E.I. axis, vital parameters, homeostasis and pathological conditions*

To act on the P.N.E.I. axis, and more specifically on the alterations induced on it by endogenous and exogenous stressors, means to act deep down, on the disease's pathogenetic intimacy, on its *primum movens* and, therefore, taking the organism back to its original physiological conditions.

To act on the digestive tract, and in particular on the intestine, means to act on the most important and central organ in the P.N.E.I. system.

Having a selective controller action on this level (also acting on the quality of the microbiota) means reverberating the beneficial effects of the nutraceutical intervention on a systemic level, with crucial implications for the health of all organs and systems.

Food plays a central role in the alteration and upon the maintenance of physiological homeostasis. In the nutritional field, foods, where taken quali-quantitatively in an inappropriate manner or if characterised by genetic engineering or chemical sophistications (for example the glyphosphate present in certain foods, a known cause of endocrine interference)<sup>9,10</sup>, can alter the P.N.E.I. axis and, consequently, the homeostatic control mechanisms, which triggers a pathological process.

<sup>9</sup> Lancôt C. et al. - Effects of the glyphosate-based herbicide Roundup WeatherMax® on metamorphosis of wood frogs (*Lithobates sylvaticus*) in natural wetlands. *Aquat Toxicol.* 2013 Sep 15;140-141:48-57.

<sup>10</sup> Benachour N. et al. Time- and dose-dependent effects of roundup on human embryonic and placental cells. *Arch Environ Contam Toxicol.* 2007 Jul;53(1):126-33.

At the same time, foods can also favourably condition the function of the P.N.E.I. axis and homeostatic systems: To quote a few examples, the interactions between food and neuropeptides (for example, cocoa and serotonin and cocoa and acetylcholine) or between food and the immune system or again, the way the relationship between mean mass and fat mass can interfere with the incretion of GN-RH (and the Endocrine System more generally).

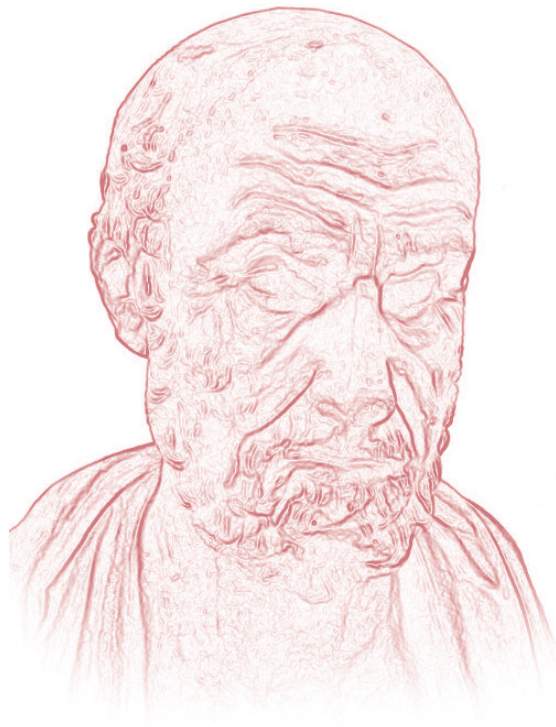
**Physiological  
Nutraceuticals  
dietary supplements  
intervene on the  
physiological  
mechanisms that  
govern neuro-  
immunoendocrine  
homeostasis.**

### **Highlight**

It is not possible to exert control over all the vital parameters through nutraceutical intervention, however, it is possible to control one very important one: **pH**.

Controlling pH, avoiding persistent fluctuations towards acidosis, constitutes the grounds for the prevention of inflammatory conditions, particularly those of a chronic *low grade* type.

**Gunabasic** is the Physiological Nutraceuticals dietary supplement rich in plant and mineral extracts in the form of a synergetic and complementary blend, able to exert a controller action over pH through balanced alkalinising activity.



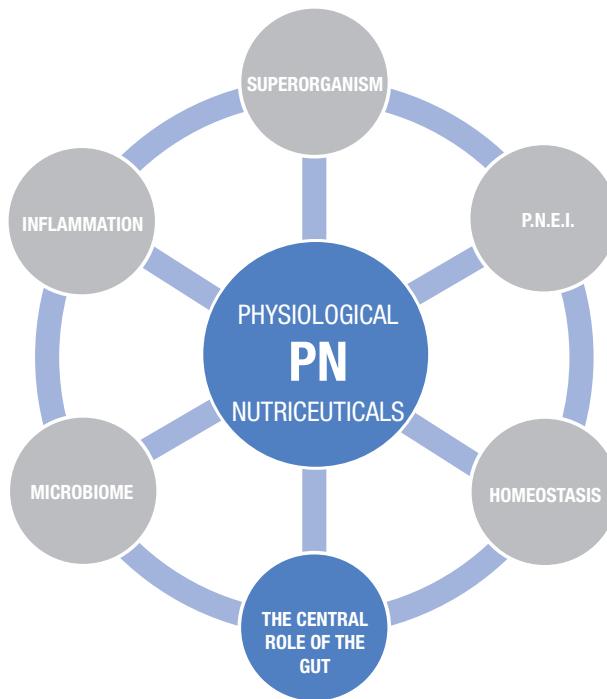
*All disease begins in the gut.*  
Hippocrates (460 -377 B.C.)



## THE CENTRAL ROLE OF THE INTESTINE

### Key words:

mucosal layer, junction systems, gut microbiota, GALT, neuro-immuno-endocrine microcosm, foods, GBA



### Why should the intestine be the centre of attention?

The gastrointestinal tract as a whole is one of the most specialised structures in the human body and it represents the largest area of contact between the body and the outside world (approximately 400 m<sup>2</sup>).

During evolution, it changed to perform two fundamental and apparently conflicting functions: to act as both a specialised filter able to guarantee the optimal absorption of nutritional substances and a selective barrier function against pathogens of all types.<sup>11, 12, 13</sup>

The mucosal layer, gut microbiota, intercellular junctions and GALT (gut—associated lymphoid tissue – the immune system associated with the mucosae) represent the four fundamental levels of the in-

<sup>11</sup> Pastorelli L. et al. - Central Role of the Gut Epithelial Barrier in the Pathogenesis of Chronic Intestinal Inflammation: Lessons Learned from Animal Models and Human Genetics. *Front Immunol* 2013; 17(4): 280.

<sup>12</sup> McGuckin MA. et al. - Intestinal barrier dysfunction in inflammatory bowel diseases. *Inflamm Bowel Dis* 2009; 15(1): 100-13.

<sup>13</sup> Randall-Demillo S. et al. - Intestinal Epithelium and Autophagy: Partners in Gut Homeostasis. *Front Immunol* 2013; 30(4): 301.

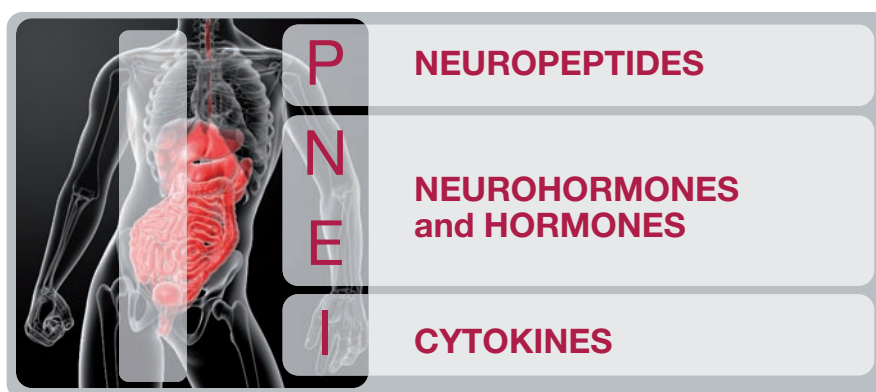


Fig. 3

*The intestine is a bona fide P.N.E.I. microcosm that plays a fundamental role in homeostatic control. It secretes neuropeptides, neurohormones and hormones and cytokines.*

testinal barrier<sup>14, 15</sup>. Moreover, the gastrointestinal tract is a P.N.E.I. system<sup>6</sup> that secretes neuropeptides, neurohormones, hormones and cytokines, thereby making a decisive contribution to the control of local and systemic physiological homeostasis and able to react to different types of stimuli.

For example, the goblet cells in the intestine have receptors for corticotropin-releasing hormone (CRH) and react to stress by increasing the permeability of the intestinal epithelium (thus triggering a local inflammatory process)<sup>16</sup>, whereas the enteroendocrine cells secrete tryptophan<sup>17</sup> and GABA (thereby contributing to controlling anxiety levels and playing a fundamental role in the mechanisms that, if altered, can lead to anxiety-depressive syndrome).

It could be said that the gastrointestinal tract represents a **neuro-immuno-endocrine microcosm** with a key role in controlling homeostasis, a fully-blown organ that is central to the control of homeostasis, a structure that is essential to homeostatic control. (Fig. 3)

To act on the gastrointestinal tract, maintaining or restoring its histological integrity, its P.N.E.I. function and its capacity as a homeostatic controller means preventing or treating both

<sup>14</sup> Tsuji M. et al. - Dynamic interactions between bacteria and immune cells leading to intestinal IgA synthesis. *Semin Immunol* 2008; 20(1): 59-66.

<sup>15</sup> Cunningham-Rundles S. et al. - Effect of probiotic bacteria on microbial host defense, growth, and immune function in human immunodeficiency virus type-1 infection. *Nutrients* 2011; 3(12): 1042-70.

<sup>16</sup> Hart A. et al. - Review article: mechanisms of initiation and perpetuation of gut inflammation by stress. *Aliment Pharmacol Ther* 2002; 16(12): 2017-28.

<sup>17</sup> Uribe A et al. - Microflora modulates endocrine cells in the gastrointestinal mucosa of the rat. *Gastroenterology* 1994; 107(5): 1259-69.

local and systemic pathological alterations.

If it is true that the human body is, in actual fact, a superorganism, it will be easy to understand that the structure and function of the intestine are closely dependent on the relationship between microbiota and P.N.E.I. system. Their physiological interdependence guarantees the integrity of the mucosa and assures the maintenance of that condition of “**physiological**” or “**controlled**” inflammation that is essential to guaranteeing immunotolerance<sup>18</sup>.

The interruption of the equilibrium between the neuroimmunoendocrine control of the mucosal function and the composition of the microbiota underlies the shift from physiological inflammation to pathological inflammation and can trigger the gastrointestinal and extra-intestinal condition.

We now know that the relationship between the microbiota and P.N.E.I. is mediated by the gut-brain axis (GBA)<sup>17</sup>: the alteration in the physiological composition of the microbiota, caused, for example, by mental stress that “travels” along the GBA, causes the bacteria to lose their role as the controller of inflammatory homeostasis, leading to an increase in inflammatory markers.

It is interesting to note that the gut microbiota plays a two-way role in the gut-brain axis, i.e. it is not merely influenced by conditions of mental stress, rather it is able, in turn, to influence the CNS and behaviour: it can cause the epithelial production metabolites with a direct influence on the central nervous system (for example by altering the metabolism of tryptophan, with the consequent onset of depression-like syndrome) and activate mucosal immune response (the expression of toll-like 2, 4 and 5 receptors is modulated by the fluctuations in the composition of the microbiota)<sup>18</sup>.

It therefore goes without saying that the alteration in the gut-brain axis underlies the triggering of conditions with a significant psychosomatic component such as, for example, irritable bowel syndrome (a condition with a high incidence in industrialised countries, where it affects an average of 15 % of the population)<sup>19, 20</sup>.

Changes to the GBA are present in illnesses such as Crohn's disease (affecting between 27 and 48 every 100,000 inhabitants) and other acute and chronic conditions (with a high incidence in western countries) and they are one of the most important results of an incorrect diet (alcohol abuse and/or junk food).

<sup>18</sup> Collins SM. et al. - *The Relationship Between Intestinal Microbiota and the Central Nervous System in Normal Gastrointestinal Function and Disease*. *Gastroenterology* 2009; 136:2003 - 2014.

<sup>19</sup> Salonen A. et al. - *Gastrointestinal microbiota in irritable bowel syndrome: present state and perspectives*. *Microbiology* 2010;156 (Pt 11):3205-15.

<sup>20</sup> Longstreth GF. et al. - *Functional bowel disorders*. *Gastroenterology* 2006; 130:1480 - 1491.



All of these conditions have an inflammatory aetiology that supports and is supported by a significant change in the intestinal barrier and, in particular by the alteration in junction systems [opening of the tight junctions (TJ) in the apical epithelial cells]<sup>21, 22, 23</sup>.

Of the various physiological factors involved in the regulation of the junction systems, diet is undoubtedly the most important, as it represents the fundamental substrate for chronic inflammatory states. Indeed, it has been observed that certain nutrients are able to modulate the intestine's barrier function in both positively (for example, antioxidants such as Vitamins C and E) and negatively (for example excessive fatty acids) by modulating the TJs, mucus production and epithelial cell turnover<sup>23, 24</sup>. The diet in the so-called industrialised countries, known as the western diet, which is unbalanced and excessively rich in fats, salt, sugars and genetically-modified organisms (GMOs), is thought to be a decisive element for the development of diseases that are typical of industrialised countries. Diabetes, obesity and bowel cancer, for example, are diseases characterised by latent, persistent, subclinical inflammation that, as described above, also inevitably affects the integrity of the intestinal epithelium and on the composition of the gut flora<sup>25, 26, 27</sup>.

Various therapeutic strategies can be used to manage pathological gut flora alterations: the choice of the most appropriate depends on which component of the barrier has been altered.

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<sup>21</sup> Suzuki T. - Regulation of intestinal epithelial permeability by tight junctions. *Cell Mol Life Sci* 2013; 70(4): 631-59.

<sup>22</sup> Assimakopoulos SF. et al. - Enterocytes' tight junctions: From molecules to diseases. *World J Gastrointest Pathophysiol* 2011; 2(6):123-37.

<sup>23</sup> Schneeberger EE. et al. - The tight junction: a multifunctional complex. *Am J Physiol Cell Physiol* 2004; 286(6):C1213-28.

<sup>24</sup> Al-Shmgani HS. et al. - Effects of hyperoxia on the permeability of 16HBE14o- cell monolayers-the protective role of antioxidant vitamins E and C. *FEBS J* 2013; 280(18):4512-21.

<sup>25</sup> Kundumani-Sridharan V. et al. - 12/15-Lipoxygenase mediates high-fat diet-induced endothelial tight junction disruption and monocyte transmigration: a new role for 15(S)-hydroxyeicosatetraenoic acid in endothelial cell dysfunction. *J Biol Chem* 2013; 288(22):15830-42.

<sup>26</sup> Martinez-Medina M. et al. - Western diet induces dysbiosis with increased *E. coli* in CEABAC10 mice, alters host barrier function favouring AIEC colonisation. *Gut* 2013; Epub ahead of print.

<sup>27</sup> Conlon MA. et al. - Resistant starches protect against colonic DNA damage and alter microbiota and gene expression in rats fed a Western diet. *J Nutr* 2012; 142(5):832-40.

However, according to Physiological Nutraceuticals, one of these options is essential: the recovery of the microbiota's physiological composition, through a selective activity against various gut flora strains.

**Restoring intestinal homeostasis through direct intervention on the microbiota and the integrity of the intestinal epithelium is crucial to the prevention and treatment of episodes of alteration of gastrointestinal function (gastroenteritis with alteration of the structure and integrity of the mucosa, inflammatory bowel disease, dysbiosis) and extra-intestinal function (neurological, ENT, respiratory, endocrine, urogenital and autoimmune diseases).**

### Highlight

The protection of the mucosal layer represents the fundamental passage for restoring the integrity of the mucosa and, with it, recovery of its function.

The conservation and *restitutio ad integrum* of the gut mucosa allows it to exert its own pivotal immunosurveillance/immunotolerance role and therefore control over inflammatory processes and degenerative phenomena.

**Colostrononi** is the Physiological Nutraceuticals dietary supplement containing freeze-dried bovine colostrum and juice from the flesh of the Noni fruit (*Morinda citrifolia* L.), with a positive effect on epithelial cell turnover, on inflammatory states and on junction system integrity.





*"We are one, after all, you and I,  
together we suffer,  
together exist and forever will  
recreate each other"*

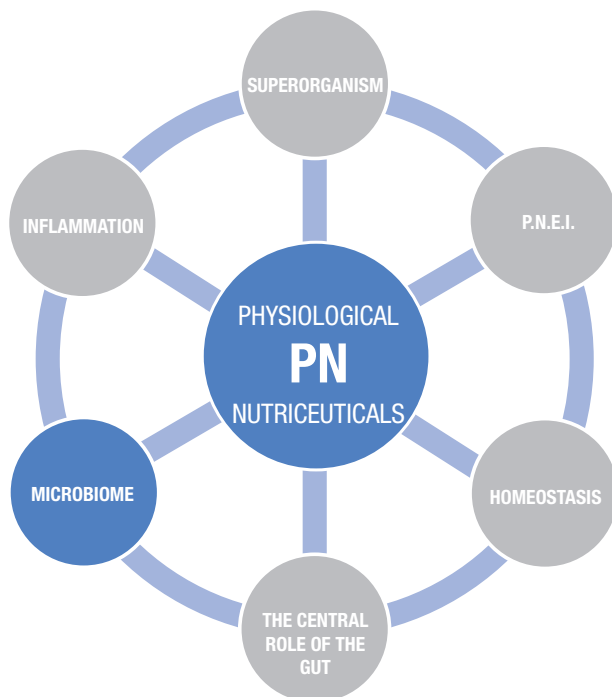
Pierre Teilhard de Chardin (1881-1955)



## THE MICROBIOME

### Key words:

*EGOsystem*,  
*ECOsistem*,  
bacterial species,  
microbiome, epigenetic,  
behaviour, autism, GBA,  
ghrelin-leptin, IBDs



### Hosts or guests?

Evolutionary mechanisms are often associated with the concept, promoted almost to the rank of dogma, of the predominance of the fittest over the weakest: the organism (considered as a single body) that is most resistant and equipped with the best adaptive abilities will prevail over the others, creating its own specific ecological niche.

Recently, a new point of view, centred on the study of symbiotic relationships, radically changed this outlook: symbiotic relationships can express superior new evolutionary potential as they allow whole new metabolic pathways and functions to be acquired, to the advantage of the participants in the symbiotic relationship.

With Physiological Nutraceuticals a new paradigm takes shape and develops into the concept: from **EGOsystem** to **ECOsistem**.

The study of symbiosis plays a fundamental role in the knowledge and understanding of human physiology: we are inhabited by approximately

**600 genera and over 10,000 species** of bacteria, for a total number of bacterial cells **2.7 times greater** than those we consider to be our own. A mass of approximately **2.5 kg** than those we consider to be our own. A mass of approximately 2.5 kg constitutes the microbiota as a whole (the gut flora weighs **1.3 kg**, is almost the same as our brain).  
(Fig. 4)

And so, is it reasonable to ask:  
do we host the bacteria, or do they host us?

The concept of **superorganism** and **microbiome** (genetic makeup of all the microorganisms and their environmental interactions with the host) has also made it possible to interpret the evolution of the human race differently, i.e. no longer tied to the genetic variability of the single individual rather conditioned, at least in part, also by the genetic variability of the microbiome: **4 million** genes of bacterial origin “work” for us, for example by synthesising vitamins, or taking part in digestive processes<sup>28</sup>.

Fig. 4

*Facts and figures  
concerning the  
microbiota*

By the time a baby learns to crawl, he already has **100,000 million bacteria** in his body.

The human body is inhabited by over **600 genera** and **10,000 different species of bacteria**; these cells are **2.7 times** more numerous than those that we consider our own and they weigh a total of **2.5 kg, of which 1.3 kg**, a weight equal to that of our brain, in the intestine alone. Together they constitute the **microbiota**.

The interrelations between bacteria and the human body are extremely numerous: for example, there is a very close relationship between ***H. pylori***, **ghrelin** and **leptin** (which are involved in appetite control). *H. pylori* helps to keep ghrelin levels low. Antibiotic sterilisation against *H. pylori*, particularly during childhood, could help to create a new generation of “*H. pylori*-less” children with eating behaviour problems.

The microbiota bacteria have at least a **million genes** and they work for the host organism: they produce vitamins and protect the intestine against infection.

Bacteria can **change the cerebral chemistry**, which affects mood and behaviour.

<sup>28</sup> Goodacre R. - *Metabolomics of a superorganism*. Jan 2007;137(1 Suppl):259S-266S.

The relationship between the organism and the microbiota is a key part of the concept of P.N.E.I. axis homeostasis<sup>29</sup>

The microbiome's symbiotic balance is continuously prey to stressors, amongst which diet plays the main alteration factor<sup>30</sup>.

The change in the qualitative and quantitative relations between the intestinal bacteria affects the homeostasis of the P.N.E.I. axis, on both its higher part (CNS)<sup>31, 32</sup>, and on its lower part (endocrine system and immune system)<sup>33, 34</sup>.

The microbiota can epigenetically influence the expression of a vast range of the host's genes and the interruption of the symbiotic relationship between microbiota and intestinal mucosa is one of the causes of the activation of mucosal immune response (as mentioned previously, the expression of the toll-like 2, 4 and 5 receptors is modulated by fluctuations in the composition of the microbiota) and by the consequent triggering of inflammatory bowel disease, as is the case in IBDs and *Clostridium difficile* colitis<sup>35</sup>. (Fig. 4)

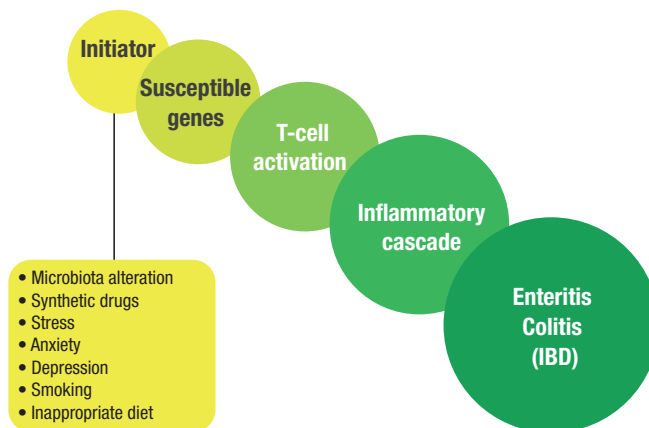


Fig. 5

*Microbiota alteration can be the onset of the activation of susceptible genes for the activation of lymphocyte subpopulations Th1-Th17 and, therefore, epigenetic cause of the inflammatory cascade that precedes IBD.*

<sup>29</sup> Eberl G. - A new vision of immunity: homeostasis of the superorganism. *Mucosal Immunol.* 2010; Sep;3(5):450-60.

<sup>30</sup> Kovatcheva-Datchary P. et al. - Nutrition, the gut microbiome and the metabolic syndrome. *Best Pract Res Clin Gastroenterol.* 2013; Feb;27(1): 59-72.

<sup>31</sup> Forsythe P. et al. - Voices from within: gut microbes and the CNS. *Cell Mol Life Sci.* 2013; Jan;70(1): 55-69.

<sup>32</sup> Forsythe P. et al. - On communication between gut microbes and the brain. *Curr Opin Gastroenterol.* 2012;Nov;28(6): 557-62.

<sup>33</sup> Delzenne NM. et al. - Targeting gut microbiota in obesity: effects of prebiotics and probiotics. *Nat Rev Endocrinol.* 2011; Aug 9;7(11): 639-46.

<sup>34</sup> Olivares M. et al. - Host genotype, intestinal microbiota and inflammatory disorders. *Br J Nutr.* 2013; Jan;109 Suppl 2: S76-80.



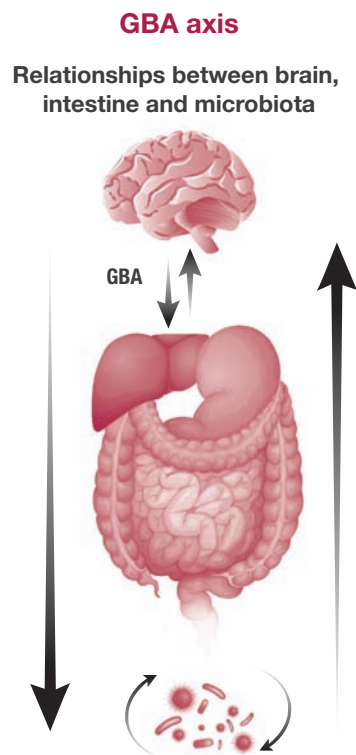
Commensal bacteria can also influence the expression of genes that control and regulate CNS function, for example by altering tryptophan metabolism with a consequent onset of pseudodepressive syndrome<sup>17</sup>.

Intestinal function has always been said to be a second brain (90% of serotonin is secreted by the enterochromaffin cells in the stomach and intestine); besides, it is clinically easy to identify a close relationship between nervous and digestive function (irritable colon or functional dyspepsia)<sup>35, 36, 37</sup>.

Along the GBA axis, mental stress can alter the qualitative and quantitative composition of the microbiota and the latter, in turn, can alter nervous function and even behaviour.

Fig. 6

*Two-way relationships between the brain and intestine. Through the stress pathway, the brain can influence intestinal physiology, thereby altering the composition of the microbiota. The loss of microbiota homeostasis causes a shift from physiological mucosal inflammation to pathological inflammation, which also has repercussions on the central nervous system, which may present with behaviour alterations.*



<sup>35</sup> Chassaing B. et al. - The Commensal Microbiota and Enteropathogens in the Pathogenesis of Inflammatory Bowel Diseases. *Gastroenterology* 2011 May; 140(6): 1720-28.

<sup>36</sup> Hughes PA. et al. - Immune activation in irritable bowel syndrome: can neuroimmune interactions explain symptoms? *Am J Gastroenterol.* 2013 Jul;108(7): 1066-74.

<sup>37</sup> Collins SM. et al. - The interplay between the intestinal microbiota and the brain. *Nat Rev Microbiol.* 2012 Nov; 10(11): 735-42.

For instance, *Helicobacter pylori* alters the secretion of pro-opio-melanocortin and at the same time it down-regulates ghrelin, which controls post-prandial appetite-satiety mechanisms.

It is obvious that the complete eradication of *Helicobacter pylori* can interfere with eating behaviour, in a bulimic direction<sup>38</sup>. (Fig. 6)

In the multifactorial nature of a complex illness such as autism, for instance, it comes as no surprise that the microbiota plays a key role and that it is also involved in other behavioural disorders.<sup>39, 40, 41</sup>.

For years it was believed that “killing” the bacterium was the correct approach and antibiotic therapies were abused, in the belief that the “sterilisation” of the gastrointestinal tract could be a way to tackle illnesses such as IBDs or *Helicobacter pylori* gastroduodenitis. Then, as in a rejection reaction, abuse was made of the opposite therapies, probiotic treatments, in the belief that the only solution was to “introduce bacteria”. With Physiological Nutraceuticals, a new type of intervention is born: the selection of the microbiota.

### Highlight

Should we kill bacteria, introduce bacteria or select intestinal bacteria?

In Physiological Nutraceuticals there are no doubts: **select** is the right word.

**Colostrononi**, containing freeze-dried bovine colostrum and the juice of the flesh of the Noni fruit (*Morinda citrifolia* L.), is the Physiological Nutraceuticals dietary supplement that, thanks to the presence of IgA, IgM, IgG, lactoferrin and cytokines is able to select the microbiota in favour of the symbiotic commensal bacteria.

The ideal complement to Colostrononi is **Proflora**, a synbiotic supplement with an innovative microincapsulated gastroprotected formulation that allows a swift recolonisation of the various intestinal segments.

<sup>38</sup> Francois F. et al. - The effect of *H. pylori* eradication on meal-associated changes in plasma ghrelin and leptin. *BMC Gastroenterol.* 2011 Apr 14; 11:37.

<sup>39</sup> Hsiao EY. et al. - Microbiota modulate behavioral and physiological abnormalities associated with neurodevelopmental disorders. *Cell.* 2013 Dec 19;155(7): 1451-63.

<sup>40</sup> Tillisch K. et al. - Consumption of fermented milk product with probiotic modulates brain activity. *Gastroenterology.* 2013 Jun; 144(7): 1394-401, 1401.

<sup>41</sup> Erickson CA. et al. - Gastrointestinal factors in autistic disorder: a critical review. *J Autism Dev Disord.* 2005 Dec; 35(6): 713-27.





*A spark neglected makes  
a mighty fire.*

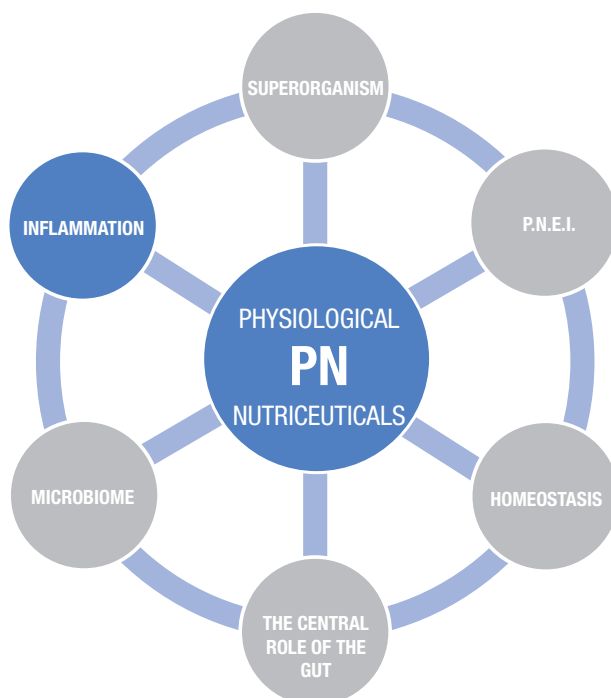
Robert Herrick (1591-1674)



## INFLAMMATION

### Key words:

physiological inflammation, immunosurveillance, immunotolerance, low grade chronic inflammation, mucosal layer, MALT



### Inflammation, mother of all illness

The gastrointestinal system, together with the microbiota that lives in it, has been defined as a P.N.E.I. microcosm.

The immune component of this microcosm is MALT (Mucosa-Associated Lymphoid Tissue). In the intestine, we talk more specifically of GALT (Gut-Associated Lymphoid Tissue), made up of different types of lymphatic tissues arranged along the walls of the intestine to form clusters or isolated follicles<sup>42</sup>.

GALT plays a fundamental role in maintaining P.N.E.I. balance through the **regulation of physiological inflammation**.

The maintenance of correct, functional intestinal inflammation is fundamental for immunotolerance, the mechanism that allows the immune system to distinguish between self/ non-self and pathogen/commensal without triggering autoimmune or exaggerated inflammatory reactions.<sup>43, 44, 45</sup>

<sup>42</sup> Veazey RS. et al. - Characterization of gut-associated lymphoid tissue (GALT) of normal Rhesus macaques. *Clin Immunol Immunopathol.* 1997;2013.

<sup>43</sup> Koboziev I. et al. - Gut-associated lymphoid tissue, T cell trafficking, and chronic intestinal inflammation. *Ann N Y Acad Sci.* 2010 Oct;1207 Suppl 1:E86-93.

<sup>44</sup> Faria AM. et al. - Food components and the immune system: from tonic agents to allergens. *Front Immunol.* 2013 3 May 17;4:102.

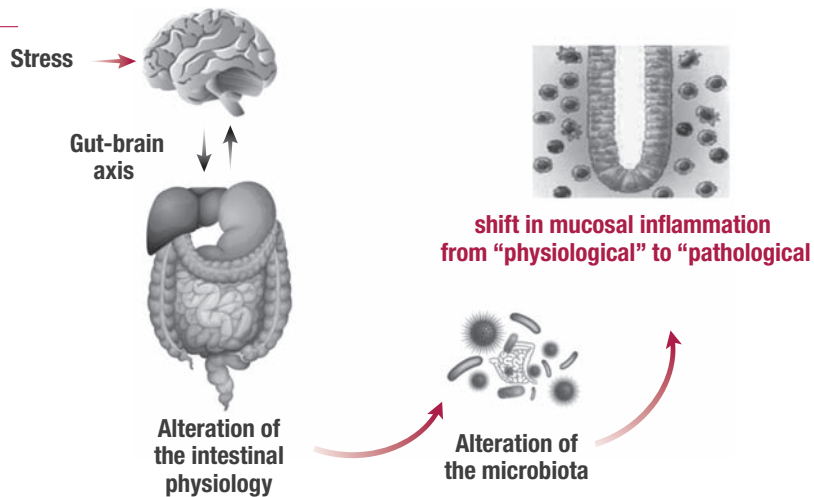
<sup>45</sup> Jung C. et al. - Peyer's Patches: The Immune Sensors of the Intestine. *Int J Inflam.* 2010 Sep 19;2010:823710.

**Microbiota, intestinal mucosa** and **GALT** are three elements in an extremely delicate equilibrium with one another, and it is upon this relationship of mutual help and control that GBA's P.N.E.I. stability depends.

The alteration of one or more of these three elements has the consequence of a shift from **physiological inflammation to low grade chronic inflammation** and as a result, the upheaval of the entire GBA<sup>17</sup>. (Fig. 7)

Fig. 7

*Alterations in gastrointestinal physiology, caused for example by mental stress, can lead to changes in the intestinal habitat and therefore a different microbiota. The altered microbiota loses its function of control over the physiological inflammation of the intestinal mucosa, causing it to shift towards its pathological manifestation and the consequences of this are, first and foremost, dysbiosis and leaky gut syndrome.*



Maintenance of the correct MALT/GALT plasticity is obtained by acting primarily on the intestinal epithelium and on the microbiota<sup>46, 47</sup>: in the mucosa, the maintenance of the structural integrity and optimum permeability of the monolayer are of fundamental importance, whereas with the microbiota, the fundamental action is the maintenance of the physiological bacterial pool, or its reintegration/reselection in the event of an alteration.

<sup>46</sup> Tezuka H, Obteki T. - Regulation of intestinal homeostasis by dendritic cells. *Immunol Rev.* 2010.

<sup>47</sup> Bauer E. et al. - Influence of the gastrointestinal microbiota on development of the immune system in young animals. *Curr Issues Intest Microbiol.* 2006.

An efficient epithelium and a correctly composed, healthy microbiota allow the GALT to be correctly immunocompetent and to perform its immunosurveillance and immunotolerance function in an optimum manner, thereby preserving the GBA axis from the shift that, from physiological inflammation leads to low grade chronic inflammation.

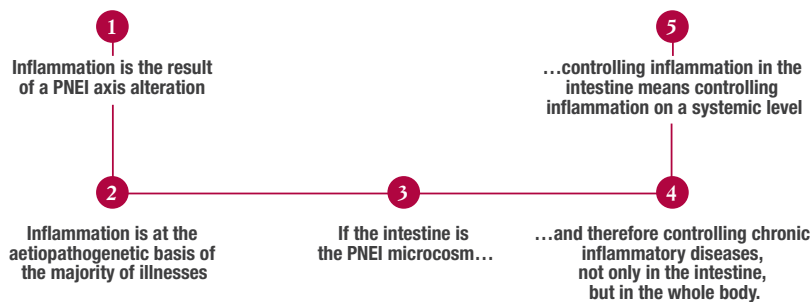


Fig. 8

*Inflammation, mother of all illness.  
The importance of control over intestinal inflammatory phenomena*

Given the intestine's central role as the P.N.E.I.'s organ of homeostatic control, acting on an intestinal level means working on a systemic level; modulating acute or low grade chronic intestinal inflammatory processes means controlling systemic inflammatory phenomena and, ultimately, conserving the health of the entire organism.

### Highlight

The protection of the mucosal layer and selection of the microbiota makes it possible, on the one hand, to stabilise mucosal immunotolerance phenomena and, on the other, to reduce the inflammatory trigger role exerted by non-eubiotic microbiota; in short, to reduce the triggering of inflammatory conditions, particularly low-grade chronic inflammation.

**Colostrononi** is the Physiological Nutraceuticals dietary supplement containing freeze-dried bovine colostrum and the juice of the flesh of the Noni fruit (*Morinda citrifolia* L.), with a positive effect on the turnover of the epithelial cells, on the integrity of the junction systems and, above all, on the inflammatory states of the intestinal mucosa.





## GUIDE TO THE USE OF PHYSIOLOGICAL NUTRACEUTICALS DIETARY SUPPLEMENTS

The combination of the Six Pillars of Physiological Nutraceuticals forms the basis for the intervention strategy for a global approach to health aimed at:

**Preventing** the onset of pathological conditions  
(primary prevention instrument)

**Supporting** physiological balance  
(wellness instrument)

**Countering** ageing processes  
(anti-ageing instrument)

**Acting** as a coadjuvant in the presence of pathological conditions  
(treatment instrument).

### Strategy 1

- To prevent the onset of pathological conditions
- To support physiological balance
- To counter ageing processes

As the intestine is the centre of attention, given its role as the controller of the physiological homeostasis of the whole body, it goes without saying that the primary intervention of Physiological Nutraceuticals focuses on this organ.

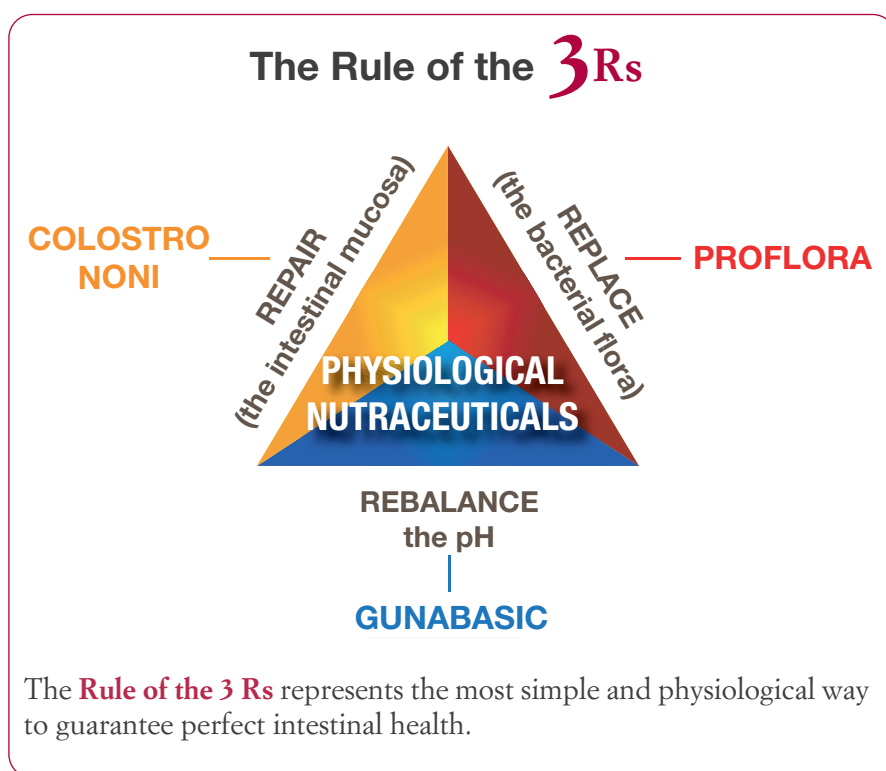
It can be said that the Physiological Nutraceuticals philosophy of **preventing** the onset of pathological conditions, **supporting** physiological balance and **countering** ageing processes can be summarised in the aphorism:

Take care of your gut

## The Rule of the 3 Rs

Taking care of your intestine may seem difficult, and yet observing **3 simple rules** can radically change the wellness of this organ and, with it, the whole body.

Applying simple rules becomes the basic nutraceutical instrument for achieving a true condition of wellness and for the implementation of true primary prevention.



It consists of three sequential phases: **Rebalancing** of pH; **Repair** of the intestinal mucosa; **Replacement** of the gut microbiota.

## Rebalance

pH is one of the most important vital parameters for the maintenance of physiological homeostasis.

There is no tissue that is not influenced by changes in pH. More specifically, prevalent and prolonged conditions of acidosis provide the metabolic substrate for the onset and progression of low-grade chronic inflammatory processes. The delicate intestinal mucosa is one of the tissues that most “suffers” acidotic alterations in pH.

**Rebalancing** pH is therefore a fundamental starting point for the success of the Rule of the 3Rs.

### **Gunabasic** *Key words:*

- acid-base rebalancing
- cell function support
- mineral rebalancing
- anti-inflammatory, anti-degenerative, draining action

**Gunabasic** is the basic dietary supplement containing minerals and plant extracts that combats metabolic acidosis by restoring the buffer systems that govern the acid-base balance. Gunabasic's composition guarantees a balanced intake of trace elements and minerals that make it possible to restore or maintain ideal metabolic conditions that favour cell function. The presence of plant ingredients such as bamboo fibre (which is very rich in silicon) makes the product an excellent anti-degenerative of the extracellular matrix.

**Gunabasic:**  
one sachet/day  
dissolved in water,  
for at least 15 days,  
to be taken in the  
evening

see page 71

## Repair

The intestinal mucosa is now ready for the second step of the Rule of the 3Rs: **Repair** and protect the intestinal mucosa. By restoring epithelial cell turnover, modulating mucosal inflammatory states and restoring junction system integrity, we perform an effective *turn-over* of the mucosal layer and its selective absorption and barrier function, as well as its role as controller of intestinal and systemic homeostasis.

### **Colostrononi** *Key words:*

- *Restitutio ad integrum* and protection of the intestinal mucosa
- Modulation of inflammatory states of the digestive system mucosa
- Protection of the mucosa from oxidative processes
- Selection of non-pathogenic gut microbiota
- Modulation of the mucosa-associated immune system (MALT)

**Colostrononi** is an additive-free, low-fat dietary supplement containing 100% pure freeze-dried bovine colostrum and *Morinda citrifolia* L. (Noni). It is particularly suitable for protecting and rebalancing the structure of the mucosa thanks to the synergetic action of its natural active ingredients. Bovine colostrum is rich in immunoglobulin and other immunomodulator ingredients, hormones and growth

**Colostrononi:**  
1 orosoluble  
sachet a day for  
15 days

see page 60

factors, amino acids, vitamins and other antioxidants and minerals. *Morinda citrifolia* L. is known for its anti-inflammatory and immune defence-stimulating properties. Colostrononi is an innovative, fast-acting orosoluble formulation, whose active ingredients are highly bioavailable for the organism. Its effective natural action protecting and rebalancing the structure of the mucosa makes it ideal for both adults and children in cases of reduced or altered intestinal function, due to infection (gastroenteritis) of bacterial or viral origin, presenting with diarrhoea, loss of appetite, abdominal pain and, in cases of intestinal dysbiosis secondary to prolonged use of antibiotics, poor diet, infectious diseases, mental stress, unwholesome lifestyle, etc.

## Replace

**Proflora:**  
1 sachet a day for  
30 days to be  
dissolved in water,  
preferably half an  
hour before meals

see page 106

Following the first two phases of the Rules of the 3Rs, the intestinal mucosa is now ready for the **Replacement** of the gut microbiota.

The intestinal habitat is finally in an ideal condition to “receive” the load of symbiotic bacteria introduced with prebiotic and probiotic products and to re-establish, once again, the correct conditions of intestinal eubiosis.

### **Proflora** Key words:

- Synbiotic with synergetic prebiotic (FOS – fructo-oligosaccharides) and probiotic activity
- Probiotic load (gastroresistant microencapsulated) that favours rapid, long-lasting colonisation that adheres well to the intestinal mucosa
- Selection of the non-pathogenic intestinal microbiota (the selected bacterial strains produce bactericine against *Escherichia coli*)
- Modulation of the mucosa-associated immune system (MALT)

**Proflora** is a synbiotic dietary supplement, made up of 6 different probiotic strains, in a gastroprotected, microencapsulated form, associated with prebiotic fibre to rebalance the gut ecosystem. Microencapsulation significantly improves the survival ability of all probiotic strains during gastroduodenal transit, which means that a great number of live and healthy microorganisms reach the intestine. The probiotic component belongs to the Bifidobacterium and Lactobacillus genera and its metabolic characteristics generate a synergetic effect that guarantees a swift colonisation of the various segments of the intestine. The prebiotic component is made up of fructo-oligosaccharides (FOS), which are able to selectively stimulate the development of the probiotic strains of all the groups of “beneficial” microbes of the autochthonous gut microbiota. As they are not hydrolysed by digestive enzymes, or absorbed by the mucosa of the small intestine, the FOS reach the colon intact, where they are selectively fermented by the beneficial component of the gut microbiota, particularly Lactobacilli and Bifidobacteria, which boosts the intestinal mucosa’s “barrier effect” and favours the absorption of certain minerals, particularly calcium and magnesium.

**The three products can be taken in combination,  
even during the same day,  
without affecting their individual efficacy**

## Lifestyle and Physiological Nutraceuticals

Looking after one's intestine, protecting the mucosa, controlling low-grade chronic inflammatory processes, selecting the microbiota, boosting immune response, reducing the toxic load and draining the organism are the solutions that maintain a good state of health. An important contribution is made by Guna's Physiological Nutraceuticals dietary supplements, which are most effective when combined with a holistic, healthy lifestyle.

Below we provide a few rules for a lifestyle that respects the human body, its individuality, the mind-body whole and its harmony with the environment and Nature, the **Physiological Nutraceuticals lifestyle**.

1. Keep your intestine in good health: eat organic foods and no GMOs. Avoid processed foods whenever possible.
2. Protect and promote the health of your intestine (and, consequently, that of your whole body), with the use of prebiotic and probiotic products.
3. Whenever possible, breast feed up to at least six months.
4. Exercise for at least thirty minutes a day. Move your body to mobilise toxins and fight the excess cortisol caused by stress. Yoga is an excellent way to relax the mind and, at the same time, strengthen the body, however the essential thing is for each person to find what really works for him/her: power walking, running, dancing, aerobic activity, swimming, gym workout, etc. Choose something you like and that suits your schedule, and start practising it.
5. Make moderate use of salt (no more than 5g a day), sugar and refined fats. Remember, certain types of fat are beneficial and essential: processed fats are the ones to avoid. Avoid industrially processed foods, which are rich in salts, sugars and fats and make moderate use of alcoholic beverages, which are rich in sugars.
6. Go to bed early; do not watch the television or surf the Internet before going to sleep: the light on the screen interferes with the production of melatonin. If possible, establish a "ritual", such as having a bath or doing something else relaxing before going to sleep (it does not necessarily have to last a long time to be effective).

7. Every day, drink at least 30 ml of water per kg of body weight.
8. Unless strictly necessary, do not use synthetic medicinal products, which often alter the beneficial gut bacteria; rather opt for homeopathic or low-dose products that do not cause intestinal dysbiosis and do not have side effects.
9. Alkalise the body and balance pH. Fresh fruit and vegetables are the most effective alkalinisers. Alternatively choose a good dietary supplement that rebalances pH.
10. Avoid or restrict pro-inflammatory foods, such as:
  - gluten
  - monosodium glutamate (an additive used to prepare stock cubes and granules)
  - sugar, high-fructose corn syrup and other artificial sweeteners.
  - fried foods
  - all processed and packaged foods.
11. Eat anti-inflammatory foods, such as:
  - green leaf vegetables such as cabbage, spinach and chicory
  - whole fruits (not fruit juices)
  - cold-pressed extra-virgin olive oil
  - still water and green tea
  - dark colored fruits and berries
  - raw nuts
  - foods rich in Omega3, such as walnuts, sardines, salmon and flax seeds.
12. Do not eat a heavy meal before going to bed; allow at least two (but preferably three) hours to pass between the last meal of the day and bedtime. Eat your main meal at lunchtime.
13. Breathe deeply and evenly to stimulate vagal response (to reduce the heart rate and blood pressure). Fast, shallow breathing stimulates the sympathetic ANS, whereas deep breathing stimulates the parasympathetic ANS. It is not possible to be stressed and to breathe deeply at the same time.

14. Do not smoke (do we really have to say it again?). Nicotine is also highly pro-inflammatory.  
Do not overdo the caffeine (... and avoid artificial sweeteners).
15. Keep an open mind. The mind is like a parachute: it only works when it is open. Concentrate on positive thoughts, train your brain to avoid the internal “mumbling” of negative thoughts. Negative thoughts are pro-inflammatory.
16. Above all, moderation in all things... even in following these suggestions.

## Strategy 2

### **To intervene as an adjuvant in pathological conditions**

The vast range of Guna Physiological Nutraceuticals dietary supplements provide effective support treatments to medicinal therapies for a vast spectrum of disorders and pathologies.

Guna's Physiological Nutraceutical supplements are the ideal complement to conventional, homeopathic, homotoxicological and herbal therapies and in many cases they are adequate when used alone.

The following pages provide a detailed description on the way to use the products, illustrating the characteristics of each and every Guna Physiological Nutraceuticals product.





## GUIDE ON HOW TO USE GUNA NUTRACEUTICALS AS COADJUVANTS IN THE PHARMACOLOGICAL TREATMENT OF COMMON MEDICAL CONDITIONS

<b>Acne</b>	<b>Gunabasic:</b> 1 sachet a day for at least 15 days (cycles can be repeated); <b>Profem:</b> 1 sachet per day between meals.
<b>Ageing</b>	<b>Colostrononi:</b> 1 sachet twice a day + <b>Gunabasic:</b> 1 sachet a day for at least 15 days (cycles can be repeated); cerebral ageing: <b>Gunabrain:</b> 1 tablet twice a day.
<b>Allergies</b>	<b>Ovix:</b> 3 – 12 years, 1 – 2 tablets a day; 12 – 16 years, 1 – 3 tablets a day; adults, 3 tablets a day.
<b>Alzheimer's disease</b>	<b>Gunabrain:</b> 1 tablet twice a day; systemic supporting therapy: <b>Colostrononi:</b> 1 sachet twice a day + <b>Gunabasic:</b> 1 sachet a day for at least 15 days (cycles can be repeated).
<b>Androgenetic alopecia</b> (in women)	<b>Profem:</b> 1 sachet a day between meals; <b>Gunabasic:</b> 1 sachet a day for at least 15 days (cycles can be repeated).
<b>Antibiotics</b> (adjuvant treatment)	<b>Colostrononi:</b> 1 sachet twice a day. <b>Proflora:</b> 1 sachet a day on an empty stomach for 3 – 4 weeks.
<b>Asthenia</b>	<b>Tonicoguna:</b> 20 ml a day (preferably at 9:00 a.m.). <b>Gunabrain:</b> 1 tablet twice a day.
<b>Atherosclerosis</b>	<b>Omega Formula:</b> 1 tablet 1 – 3 times a day; <b>Gunabrain:</b> 1 tablet twice a day.

<b>Bronchial catarrh</b>	<b>Omeotoxnoni:</b> one 10 ml dose 2 – 3 times a day.
<b>Chemotherapy</b> (adjuvant treatment)	<b>Colostrononi:</b> 1 sachet twice a day; <b>Proflora:</b> 1 sachet a day on an empty stomach for 3-4 weeks; <b>Gunabasic:</b> 1 sachet a day for at least 15 days (cycles can be repeated).
<b>Chronic Fatigue Syndrome</b>	<b>Tonicoguna:</b> 20 ml a day – <b>Vit Formula.</b> 1 sachet a day.
<b>Chronic Viral Hepatitis B and C</b>	<b>Colostrononi:</b> 1 sachet twice a day.
<b>Colitis</b>	<b>Colostrononi:</b> 1 sachet twice a day; <b>Proflora:</b> 1 sachet a day on an empty stomach for 3-4 weeks.
<b>Cough</b>	<b>Omeotoxnoni:</b> 1 x 10 ml dose 2 – 3 times a day.
<b>Crohn's disease</b>	<b>Colostrononi:</b> 1 sachet twice a day + <b>Proflora:</b> 1 sachet a day on an empty stomach for 3-4 weeks
<b>Cystitis</b> (recurrent forms)	<b>Colostrononi:</b> 1 sachet twice a day; <b>Proflora:</b> 1 sachet a day on an empty stomach for 3 – 4 weeks.
<b>Depression and anxiety-depression syndromes</b>	<b>Colostrononi:</b> 1 sachet twice a day.
<b>Diarrhoea</b>	<b>Colostrononi:</b> 1 sachet twice a day; <b>Proflora:</b> 1 sachet a day on an empty stomach for 3-4 weeks.
<b>Digestion</b> (disorders)	<b>Enzyformula:</b> 1 swallowable tablet before or immediately after the 2 main meals; <b>Colostrononi:</b> 1 sachet twice a day.

<b>Exhaustion</b> (states of)	<b>Tonicoguna:</b> 20 ml a day + <b>Vit Formula:</b> 1 sachet a day.
<b>Gas and flatulence</b>	<b>Enzyformula:</b> 1 swallowable tablet before or immediately after the 2 main meals; <b>Colostrononi:</b> 1 sachet twice a day.
<b>Gastritis</b>	<b>Colostrononi:</b> 1 sachet twice a day.
<b>Gut microbiota</b> (alterations of)	<b>Proflora:</b> 1 sachet a day on an empty stomach for 3 – 4 weeks; <b>Colostrononi:</b> 1 sachet twice a day.
<b><i>H. pylori</i></b> <b><i>gastroduodenitis</i></b>	<b>Colostrononi:</b> 1 sachet twice a day.
<b>Helminth infestations</b>	<b>Gunaelmint:</b> 1 sachet 3 times a day for 5 days; after 15 days repeat a second 5-day cycle with the same posology.
<b>Hepato-pancreatic insufficiency</b>	<b>Enzyformula:</b> 1 swallowable tablet before or immediately after the 2 main meals.
<b>Hypercholesterolaemia</b>	<b>Omega Formula:</b> 1 tablet 1 to 3 times a day.
<b>Influenza</b> (prophylaxis)	<b>Colostrononi:</b> 1 sachet twice a day.
<b>Intestinal dysbiosis</b>	<b>Colostrononi:</b> 1 sachet twice a day + <b>Proflora:</b> 1 sachet a day on an empty stomach for 3-4 weeks.
<b>Iron-deficiency anaemia</b>	<b>Ferroguna:</b> 1 sachet a day for 2 – 3 months; during pregnancy 2 sachets a day from the 4 <sup>th</sup> month.
<b>Localised adipose deposits</b>	<b>Gunamino Formula:</b> 5 tablets or 1 sachet 3 times a day; <b>Omega Formula:</b> 1 tablet 1 – 3 times a day.

<b>Loss of appetite</b>	<b>Tonicoguna:</b> 20 ml a day + <b>Vit Formula:</b> 1 sachet a day.
<b>Memory (disorders)</b>	<b>Gunabrain:</b> 1 tablet twice a day; <b>Tonicoguna:</b> 20 ml a day – <b>Vit Formula:</b> 1 sachet a day.
<b>Menopausal (disorders)</b>	<b>Profem:</b> 1 sachet between meals; <b>Ferroguna:</b> 1 sachet a day for 2 – 3 months; during pregnancy 2 sachets a day from the 4th month.
<b>Metabolic acidosis</b>	<b>Gunabasic:</b> 1 sachet a day for at least 15 days (cycles can be repeated).
<b>Metabolic syndrome</b>	<b>Omega Formula:</b> : 1 tablet 1 - 3 times a day.
<b>Neurological damage</b>	<b>Gunabrain:</b> 1 tablet twice a day.
<b>Obesity and overweight</b>	<b>Gunamino Formula:</b> 5 tablets or 1 sachet 3 times a day; <b>Omega Formula:</b> 1 tablet 1 – 3 times a day.
<b>Osteoarthritis</b>	<b>Profos:</b> 1 - 2 sachets a day.
<b>Osteoporosis</b>	<b>Gunabasic:</b> 1 sachet a day for at least 15 days (cycles can be repeated).
<b>Urticaria</b>	<b>Ovix:</b> 3 – 12 years, 1-2 tablets a day; 12 – 16 years, 1 – 3 tablets a day; adults, 3 tablets a day.
<b>Sports medicine</b>	<b>Gunamino Formula Sport:</b> 5 tablets or 1 sachet 3 times a day; 2 sachets a day to be taken before and after exercise. Dissolve the contents of 1 sachet in a glass of water or other drink and stir well.
<b>Tape worms</b>	(see Helminth infestation).

### **Vaginal candida**

**Colostrononi:** 1 sachet twice a day;  
**Proflora:** 1 sachet a day on an empty stomach for 3 – 4 weeks; **Gunabasic:** 1 sachet a day for at least 15 days (cycles can be repeated).

### **Wrinkles**

**Profos:** 1 – 2 sachets a day;  
**Profem:** 1 sachet a day between meals.



## **GUNA PHYSIOLOGICAL NUTRACEUTICALS SUPPLEMENTS**

<b>Colostrononi</b>	●	pag. 60
<b>Enzyformula</b>	●	pag. 64
<b>Ferroguna</b>	●	pag. 68
<b>Gunabasic</b>	●	pag. 71
<b>Gunabrain</b>	●	pag. 76
<b>Gunaelmint</b>	●	pag. 79
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<b>Ovix</b>	●	pag. 99
<b>Profem</b>	●	pag. 101
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<b>Vit Formula</b>	●	pag. 118



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## Colostrononi

### What is Colostrononi?

Containing freeze-dried *cow's colostrum* and *Morinda citrifolia* L. (Noni), it is a fast-acting, orosoluble dietary supplement, whose active ingredients are readily bioavailable for the organism. Colostrononi is suitable for use by both **adults** and **children** to:

- **Favour** intestinal eubiosis
- **Maintain** the histological integrity of the intestinal mucosa
- **Stimulate** the mucosa-associated immune system.

### Why use Colostrononi?

With its vast surface area (approximately 400 square metres), the digestive tract represents the body's most important outside world/ inside world interface. In **physiological conditions**, its delicate mucosal structures provide an effective filter that selects what is useful to and what is harmful for the body and an extraordinary protective barrier against pathogens or substances that are potentially harmful to its integrity (free radicals). In **pathological conditions** the mucosal structures can represent the main "way in" for **viruses**, **bacteria**, **parasites** and **mycetes** and their alteration can represent the aetiopathogenetic trigger for a multitude of inflammatory, infectious and functional illnesses:

- Influenza
- Intestine-related conditions (cystitis, prostatitis, candida)
- Gastroenteritis
- Food intolerances and allergies
- Forms of dysentery
- Constipation
- Diarrhoea
- IBDs
- IBS
- Sinus disorders
- RRI.

### How does Colostrononi work?

Colostrononi's action is attributed to its two components: *cow's colostrum* and *Morinda citrifolia* L.

### **Bovine colostrum**

Even in humans, colostrum is the first milk produced by the mother after birth and it is commonly known as "*the child's first vaccine*", by virtue of its high antibody content: indeed, it differs from mature milk in the higher quantity (6 times higher) of antibodies, amino acids, vitamins, mineral salts, hormones and growth factors.

Its active ingredients are:

#### **Immunoglobulins and other immunomodulating ingredients:**

Colostrum contains IgA/IgM/IgG, PRP (proline-rich polypeptides), lactoferrin, cytokines pool (IL-10 and IL-2), glycoproteins and tryptic inhibitors of trypsin, lymphokines, lysozyme, oligopolysaccharides and glycoconjugates that provide effective protection against viral, bacterial and mycotic infection.

#### **Hormones, amino acids and growth factors:**

these are, more specifically, oestrogens, androgens and calcium metabolism hormones, the entire amino acid pool and growth factors such as IGF- 1, EGF, FGF, TGF, that stimulate the growth and repair of the intestinal mucosa considerably improving its barrier effect.

#### **Vitamins, co-enzymes and trace elements:**

Vitamins A, C, D and E, the vitamin B group, coenzyme Q<sub>10</sub> and the trace elements (Zn, Se, Cu, etc.) guarantee optimal cell metabolism and effective protection against free radicals.

#### **Minerals and trace elements:**

the presence of Na, K, Ca, Mg, Fe, Cu, Zn, Cr, Se, P and S restores the osmotic and hydrosaline equilibrium.

### **Morinda citrifolia L. (Noni)**

A plant used for centuries by the peoples of the South Pacific and valued for its therapeutic properties. The fruit's juice has a high concentration of proxeronine, the precursor of the alkaloid **xeronine**, with endocrine and immune system stimulating function and anti-inflammatory, antibacterial and analgesic properties.

## The ADVANTAGES of Colostroni

- High content (550 mg) of 100% pure, skimmed, freeze-dried and pasteurised bovine colostrum
- It dissolves directly in the mouth. No needing water
- Ready-to-use single-dose sachets
- Low fat content
- High digestibility
- Pleasant-tasting
- Inhibiting additive- and gluten-free
- The special pharmaceutical procedure used to manufacture Colostro-ni means the product is not subject to potentially aggressive mechanical and heating processes, in order to avoid alterations in the quality of the active ingredients.

## Composition

Sweeteners: (corn) sorbitol, sucralose; freeze-dried bovine colostrum, Noni (*Morinda citrifolia* L., fruit) powdered juice, maltodextrin, flavouring, anticaking agent: silicon dioxide.

## Nutritional information

	1 sachet
Energy	7 kcal (29 kJ)
Total fat	0.006 g
of which saturates	0.004 g
Carbohydrate	1.353 g
of which sugars	0.070 g
Protein (N X 6,25)	0.363 g
Salt	0.004 g
Freeze-dried bovine colostrum	550 mg
Noni powdered juice	200 mg

## Fields of application

- Prevention and treatment of **influenza and influenza-like conditions**, particularly in those forms characterised by gastrointestinal disorders (diarrhoea, vomiting, abdominal pain and cramps) associated with general tiredness, typical of the 'flu epidemics' of recent years
- Impaired or altered intestinal function, caused by **infections (gastro-enteritis)** of both bacterial and viral origin, associated with diarrhoea, loss of appetite and abdominal pains.
- **Intestinal dysbiosis** secondary to prolonged use of antibiotics, incorrect diet, infectious diseases, physiological stress and unhealthy lifestyles.

## Directions

### Prevention of respiratory disorders

*Adults*, 1 sachet twice a day for 15 days. Repeat the cycle after 60 days. Dissolve the content of the sachet directly in the mouth, without water. The product should be taken preferably before meals.

*Children*, 1 sachet a day for 15 days. Repeat the cycle after 60 days. Dissolve the content of the sachet directly in the mouth, without water, or alternatively in milk or yoghurt. The product should be taken preferably before meals.

### Treatment of chronic gastrointestinal and intestine-related conditions

#### Treatment of intestinal dysbiosis:

*Adults*, 1 sachet twice a day for 15 days. The treatment cycle can be repeated depending on the clinical situation. Dissolve the content of the sachet directly in the mouth, without water. The product should preferably be taken before meals.

*Children*, 1 sachet a day for 15 days. The treatment cycle can be repeated depending on clinical requirements. Dissolve the content of the sachet directly in the mouth, without water, or alternatively in milk or yogurt. The product should be taken preferably before meals.

#### Adjuvant treatment for acute gastrointestinal disorders:

*Adults*, 1 sachet twice or more a day (according to medical advice) for 4 – 5 days. Dissolve the content of the sachet directly in the mouth, without water. The product should be taken preferably before meals.

*Children*, 1 or more sachets a day (according to medical advice) for 4 – 5 days. Dissolve the content of the sachet directly in the mouth, without water, or alternatively in milk or yoghurt. The product should be taken preferably before meals.



**Pack containing  
24 x 1.8 g sachets  
Net weight 43.2 g**

## Warnings

Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. Do not exceed the recommended daily dose. Keep out of the reach of children under the age of 3 years. The product contains milk derivatives. The product contains sugar alcohols: excessive use may have laxative effects. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle.



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## Enzyformula

### What is Enzyformula?

Enzyformula is a “differentiated release” dietary supplement, constituted by a combination of digestive enzymes, vitamin PP and plant extracts that favours digestive and hepatobiliopancreatic function and the rebalancing of the physiological organism-detoxifying processes.

Its exclusive formula is an ideal blend of enzymes and plant extracts for optimum restoration of the digestive function; the production technique with which Enzyformula is manufactured makes this supplement unique and readily bioavailable.

### When to use Enzyformula?

Digestive enzymes are usually secreted in the first part of the digestive tract (mouth, stomach and first part of the small intestine), where they generate digestion processes and the absorption of nutrients; in situations associated with dietary stress or excess, old age or unhealthy lifestyles, there may be a reduction in enzyme secretion, with a consequent dysregulation of digestive processes and of physiological hepatic and pancreatic function.

With its combination of **specific active ingredients** and innovative “differentiated-release technology”, Enzyformula helps to promote the **physiological digestion of lactose, complex sugars, vegetable fibers, fats and proteins**, whose altered metabolism causes the onset of a number of gastrointestinal disorders (digestion problems and feeling of heaviness, post-prandial drowsiness, abdominal bloating, intestinal gas and post-prandial headache).

It can be used by all subjects with digestive disorders and it is ideal for those over the age of 40, when digestive enzyme function drops by 50%.

### *Fast layer and slow layer:* **how the components of Enzyformula work**

Enzyformula “**differentiated-release**” tablets are constituted by a first **faster-release** layer, for rapid, specific enzymatic and phitotherapeutic support in the gastroduodenal area and a **slower-release** layer, to favour the optimum protective and antioxidant activity of the plant ingredients.

### The active ingredients of the fast-release layer

To optimise activity, the following are released in the stomach and upper small intestine, within 60 minutes:

**Natural blend of enzymes** (papain, bromelin, lactase, lipase, cellulase and amylase): this complete blend of enzymes of plant origin favours the digestion of even the most complex molecules, such as proteins, sugars, lactose, fats and plant fibres, to facilitate their gastric and intestinal transit.

*Phyllanthus niruri* L. **dry extract**: ingredient of plant origin that favours liver function and promotes detoxification processes.

*Fumaria officinalis* L. **dry extract**: herbal remedy that helps rebalance hepatobiliary, pancreatic and gastric function, over which it also exerts an antispastic action.

**Vitamin PP**: important enzymatic co-factor that promotes the physiological function of the gastric and intestinal mucosae.

### The active ingredients of the slow-release layer

Its special formulation makes this layer gastroresistant, allowing its ingredients to pass through the stomach unharmed to release them with a more effective action in the upper part of the intestine:

*Curcuma longa* L. **dry extract**: plant extract with potent antioxidant properties that is particularly useful for its protective action on the liver and bile ducts, whose function it promotes.

Melon **superoxide dismutase (SOD)**: ingredient with antioxidant properties.

## The ADVANTAGES of Enzyformula

- Complete, specific blend of digestive enzymes and plant ingredients
- Controlled, gastroresistant release to optimise the action of components according to correct digestive chronophysiology
- Synergetic action
- Speed of action
- High compliance
- Prolonged action
- Gluten-free

## Composition

Bulking agent: microcrystalline cellulose, calcium phosphate; maltodextrin; Phyllanthus (*Phyllanthus niruri* L., herba) standardized dry extract; blend of enzymes (amylase, lactase, lipase and cellulase); Fumitory (*Fumaria officinalis* L, herba c. floribus) dry extract; vegetable stearin; Bromelain; Papain; Curcuma (*Curcuma longa* L., rhizome) standardized dry extract; anticaking agents: cross-linked sodium carboxymethyl cellulose, silicon dioxide, magnesium stearate, talc; vitamin PP (Niacin) coating agents: hydroxypropyl cellulose, carnauba wax, superoxide dismutase (SOD) from melon juice (*Cucumis melo* L, fructus). Sweetener: sucralose.

## Nutritional information

Substances with nutritional or physiological effects	100 g	Daily intake 2 tablets	%RDA
Energy	305.1 kcal 1279.7 kJ	7.20 kcal 30.20 kJ	
Protein	6.8 g	0.16 g	
Carbohydrate	37.9 g	0.90 g	
Total fat	8.0 g	0.18 g	
Stonebreaker ( <i>Phyllanthus niruri</i> L., herba) standardized dry extract	16949.15 mg	400 mg	
Enzyme blend (amylase, lactase, lipase, cellulase)	8474.58 mg	200 mg	
Fumitory ( <i>Fumaria officinalis</i> L., herba c. floribus) dry extract	8474.58 mg	200 mg	
Bromelain	4237.29 mg	100 mg	
Papain	4237.29 mg	100 mg	
Vitamin PP (Niacin)	1525.42 mg	36 mg	225%
Turmeric ( <i>Curcuma longa</i> L., rhizoma) standardized dry extract	3389.83 mg	80 mg	
Superoxide dismutase (SOD)	423.73 mg	10 mg	

## Fields of application

- **Digestive problems secondary to reduced enzyme secretion:** abdominal heaviness, abdominal bloating, post-prandial drowsiness, postprandial headache

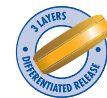
- **Poor digestion of: lactose** (milk, yogurt, cheese and other dairy products), complex proteins (meat, casein), fibers-rich vegetable products, fat-rich foods
- **Dysbiosis and malabsorption syndromes**
- **Overweight and obesity**
- **Hepatopancreatic protection.**

### Directions

Take one swallowable tablet with a glass of water before or immediately after the 2 main meals.

### Warnings

Do not exceed the recommended dose. Store in a cool, dry place, away from direct light, localised heat sources and sunlight and avoid contact with water. The expiration date refers to the product correctly stored, in its original package. Keep out of the reach of children under the age of three years. Supplements should not be considered a substitute for a varied, balanced diet and a healthy lifestyle.



**Pack containing  
20 x 1.18 g  
swallowable tablets  
Net weight 23.6 g**



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## Ferroguna

### What is Ferroguna?

Ferroguna is an orodispersible dietary supplement containing Iron, Copper, Vitamin C and dried baobab fruit flesh.

Iron contributes to normal red blood cell and haemoglobin formation and helps to reduce asthenia. Vitamin C favours the absorption of Iron and Copper favours normal Iron transportation inside the body.

### When to use Ferroguna

Ferroguna is ideal for use in cases of:

- increased Iron requirements (pregnancy, breastfeeding, infancy, old age and sports)
- reduced Iron absorption (dietary deficiency, intestinal diseases that impair the absorption of iron, vegetarian diet)
- increased physiological (menstruation) or pathological blood loss (gastritis and gastroduodenal ulcer, benign and malignant intestinal tumours, etc.).

### What are the symptoms of iron deficiency?

- Asthenia and fatigue
- Palpitations
- Headache
- Shortness of breath
- Pale skin
- Appearance of small ulcers in the corners of the mouth
- Burning sensation on the tongue and taste alteration

### Why Ferroguna is unique

One sachet of Ferroguna contains an average of 14 mg of ferrous fumarate in its ionic ferrous state with a bioavailability of 30-35%, which is higher than any other dietary or pharmacological sources (which have a bioavailability of 5-20%).

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<sup>1</sup> Roncuzzi A. et Al. –Efficacy and tolerability of FerroGUNA versus iron sulphate in the treatment of iron-deficiency anaemia in pregnancy: controlled non-inferiority study. *Giorn. It. Ost. Gin.* Vol XXXIV – no. 6 November – December 2012.

One sachet of Ferroguna releases into the blood about **5 mg of iron**, i.e. a single sachet of Ferroguna satisfies the recommended daily allowance of Iron in both physiological and special situations (dietary deficiency, menstruation, etc...).

The high bio-availability of Iron is guaranteed by the special characteristics of Ferroguna's formulation: indeed, the complementary and synergistic action of vitamin C and Copper serves to boost the absorption and metabolism of Iron.

With its very high bio-availability, which allows low doses, Ferroguna **does not cause the gastrointestinal side effects** observed with other supplements containing Iron.

### The ADVANTAGES of Ferroguna

- High bio-availability of Iron
- Pleasant taste
- Excellent tolerability
- Gluten-free

### Composition

Sweetener: (corn) sorbitol; Baobab fruit flesh (*Adansonia digitata* L.), maltodextrin, ferrous fumarate, L-ascorbic acid (vitamin C), acidity regulator: citric acid; natural flavouring, anticaking agent: silicon dioxide; sweetener: sucralose, copper citrate.

### Nutritional information

	100 g	1 sachet	%RDA
Energy	259.3 kcal 1092.1 kJ	4.4 kcal 18.6 kJ	
Protein (N X 6.25)	0.09 g	0 g	
Carbohydrate	84.13 g	1.430 g	
of which sugar alcohols	50.76 g	0.863 g	
Fat	0.01 g	0 g	
Iron	0.82 g	14 mg	100
Copper	0.02 g	0.36 mg	36
Vitamin C	1.77 g	30 mg	38
Baobab fruit flesh	38.24 g	650 mg	

## Directions

Dissolve the content of the sachet directly in the mouth, without water.  
*Children up to 12 years*, 1 sachet of orodispersible granules a day.

Children over 12 and adults, 1 to 2 sachets of orodispersible granules a day.

*Pregnancy and breastfeeding*, 2 sachets of orodispersible granules a day, unless advised otherwise by a doctor.

## Warnings

Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. Keep out of the reach of children under the age of 3 years. The product contains sugar alcohols: excessive use may have laxative effects. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle.



**Pack containing  
28 x 1.7 g sachets  
of sweetened  
orodispersible  
granules  
Net weight 47.6 g**



## Gunabasic

### What is Gunabasic?

Gunabasic is a dietary supplement designed to favour:

- acid-base rebalance
- cell enzyme function support
- recovery of full cell membrane and extracellular matrix efficiency.

### Why Gunabasic is unique

- It is an original, synergic and complementary blend of mineral and plant extracts in a balanced concentration to avoid potential side effects.
- It contains phosphates, carbonates and citrates to cover the full range of buffer systems
- It guarantees pH rebalance without unbalancing towards alkalinisation
- It favours mineral rebalance
- It has an anti-degenerative, anti-inflammatory, sedative and eupeptic action.

Mineral ingredients	Action
<b>Magnesium citrate</b>	Alkalinising
<b>Potassium citrate</b>	Electrolyte rebalancing
<b>Zinc citrate</b>	Alkalinising, immune system stimulating
<b>Copper citrate</b>	Alkalinising, protective of vessel walls
<b>Calcium carbonate</b>	Alkalinising, antiallergic
<b>Manganese carbonate</b>	Alkalinising, toning
<b>Seleniomethionine</b>	Antioxidant, anti-degenerative
<b>Iron phosphate</b>	Mitochondrial function stimulating
<b>Magnesium oxide</b>	Antispasmodic
<b>Molybdenum</b> (ammonium molybdate)	Anti-degenerative

Plant ingredients	Action
<b>Bamboo fiber</b> Root, dry extract	Bone mineralising, connective function stimulating
<b>Nettle</b> ( <i>Urtica dioica</i> L.) Root, dry extract	Anti-inflammatory, antiallergic
<b>Carrot</b> ( <i>Daucus carota</i> L.) Root, dry extract standardized to 1.8% Betacarotene	Vitamin A: protective of epithelium and mucosae
<b>Melissa</b> ( <i>Melissa officinalis</i> L.) Leaves, dry extract standardized to. 2% Rosmarinic acid	Sedative, calming, muscle relaxing
<b>Lime</b> ( <i>Tilia cordata</i> Mill.) Flowers, dry extract	Sedative, spasmolytic
<b>Fennel</b> ( <i>Foeniculum vulgare</i> Mill.) Fruit, dry extract Standardized to 1% essential oil	Anti-gas, antispastic, eupeptic
<b>Dandelion</b> ( <i>Taraxacum officinale</i> Web.) Root, dry extract	Hepatorenal draining

## Why use Gunabasic?

To combat metabolic acidosis through acid-base rebalancing, to provide the cells with substrates such as trace elements and minerals for their mineral and metabolic rebalancing, to counter inflammatory and chronic degenerative processes means putting the body into the ideal conditions for maintaining its homeostatic balance and therefore for good health and general wellness.

Gunabasic is ideal:

- in anyone over the age of fifty
- in those with diseases of the bone (particularly osteoporosis)
- in subjects with chronic inflammatory diseases (for instance, rheumatic diseases, gout, osteoarthritis, IBD, candida)
- in subjects on a protein-rich or hyperproteic diet
- in subjects with an unhealthy lifestyle (stress, smoking, sedentary life)
- in athletes
- in subjects on a special diet
- in subjects who drink large amounts of acidic drinks (e.g. cola and other soft drinks)
- in abusers of unbalanced protein supplements
- to prepare patients for any kind of pharmacological therapy.

## How Gunabasic acts

### Mechanisms of action:

- it regenerates the buffer systems
- it alkalinises the extracellular matrix
- it optimises the intra and extra-cellular concentration gradient of hydrogen ions
- it improves cell membrane permeability
- it provides coenzymatic activity mineral supports for correct cell function
- it protects the tissues against the detrimental action of acids.

### Nutraceutical effects:

- it favours cellular detoxification
- it keeps the matrix intact
- it improves the cells' metabolic function
- it counteracts chronic inflammatory processes
- it counteracts tissue degeneration
- it favours remineralisation
- it favours digestion
- it facilitates the body's detoxification.

## The ADVANTAGES of Gunabasic

- Pleasant flavour
- Perfect solubility
- Lactose- and gluten-free

### Composition

Maltodextrin, Magnesium citrate, Potassium citrate, Calcium carbonate, Nettle (*Urtica dioica* L.) root dry extract, Carrot (*Daucus carota* L.) root dry extract standardized to 1.8% betacarotene, Lemon balm (*Melissa officinalis* L.) leaves dry extract standardized to 2% rosmarinic acid, Small-leaved linden (*Tilia cordata* Mill.) flowers dry extract, Fennel (*Foeniculum vulgare* Mill.) fruit dry extract standardized to 1% essential oil, Dandelion (*Taraxacum officinale* Web.) root dry extract, Magnesium oxide, Iron phosphate, Zinc citrate, Silicon dioxide, sweetener: Sucralose; Manganese carbonate, Bamboo fibers, Seleniomethionine, Copper citrate, Ammonium molybdate.

## Nutritional information

	<b>1 bustina</b>	<b>%sachet</b>
Energy	20.8 kcal	
	88.6 kj	
Protein (N X 6,25)	0.004 g	
Carbohydrate	4.077 g	
of which sugars	0.570 g	
Total fat	0.004 g	
Potassium	300 mg	15
Calcium	240 mg	30
Magnesium	150 mg	40
Silicon	8 mg	
Zinc	7.5 mg	75
Iron	7 mg	50
Manganese	5 mg	250
Copper	0,6 mg	60
Molybdenum	50 mcg	100
Selenium	27.5 mcg	50
Betacarotene	3.6 mg	

### Herbal ingredients

Nettle dry extract	200 mg
Carrot dry extract.	200 mg
Lemon balm dry extract	200 mg
of which rosmarinic acid	4 mg
Small-leaved linden dry extract	200 mg
Fennel dry extract	200 mg
Dandelion dry extract	200 mg

## Fields of application

- Acid-base rebalancing
- Extracellular matrix alkalinisation
- Deacidification of the body
- Mineral rebalancing
- Drainage and detoxification
- Chronic inflammatory conditions
- Digestive difficulties
- States of nervous overexcitation
- Vague and poorly-defined symptoms.

## Directions

The recommended dose is 1 sachet per day in half a glass of water, preferably in the evening before going to bed and between meals, for at least 15 days.

To aid digestion it can be taken after meals to refresh and decongest.

## Warnings

Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. Keep out of the reach of children under three years of age. Do not exceed the recommended daily dose. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle.



**Confezione da  
15 bustine da 7 g  
Peso netto 105 g**



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## Gunabrain

### What is Gunabrain?

Gunabrain is a dietary supplement containing Coenzyme Q10, Selenium, Manganese, N-acetyl cysteine, green tea and *Withania somnifera*, that has been specifically developed to counteract cerebral ageing and cognitive function deterioration, aid intellectual functions (for example when studying or working), support the body in situations of temporary cerebral stress and protect it from the damages caused by free radicals. The ingredients of Gunabrain have been carefully selected and are present in specific, balanced quantities to provide a balanced intake and fully exploit the ingredients' bio-availability.

### When to use Gunabrain

Gunabrain has a dual function, just as it has two main areas of use.

In pathological conditions, conditions, in children, adults and the elderly:

- **to slow cerebral ageing**
- **brain-boosting effect** (support, reinforcement, boosting of memory and cognitive functions).

In pathological conditions, in adults and the elderly and as add-on therapy in the prevention and treatment of degenerative neurological conditions:

- **preventative treatment in subjects with a family history of Alzheimer's disease**
- **to slow down degenerative progression in subjects with Alzheimer's disease**
- **to restore memory function following TIAs** (transient ischemic attacks).

### How does Gunabrain work

- It boost memory and cognitive capacity
- It counters cerebral ageing processes
- It favours the rapid recovery of mental efficiency after psychological or physical stress
- It slows down the progression of neurological conditions
- It counteracts free radicals on a cerebral and vascular level.

### Antioxidant action

**NAC** (N-acetyl cysteine), the main precursor of Glutathione, combines with Selenium to form Glutathione Peroxidase, one of the most potent intracellular anti-free radicals.

By catalysing mitochondrial electron transport, **Coenzyme Q<sub>10</sub>** and **Manganese**, prevent the “energetic” formation of free radicals due to the early impact of the electron with the molecular oxygen. Lastly, thanks to the product’s high concentration of trace elements such as Se and Zn, **green tea** provides coenzymatic support for the function of the intracellular antioxidant systems (SOD, Catalase, Glutathione Peroxidase).

### Detoxifying action

In the liver, **NAC** has a filter action, whereas on a peripheral level it is able to chelate heavy metals.

### Vasodilating action

Together with nitric oxide, **NAC** exerts a significant vasodilating action on both a cerebral and a peripheral level.

### General cellular metabolism stimulation

Thanks to its direct action on the thyroid hormones and TSH, **Selenium** boosts baseline metabolism, lending greater tone to the whole body.

### Trophic action on the nerve structures

**Withania somnifera** has a known protective and conditioning action on axonal terminations and in particular on the hippocampus. It also exerts a significant modulation action on the enzyme Acetylcholinesterase which boosts the transmission of nerve impulses (Acetylcholine) and the interneuronal communication.

## The ADVANTAGES of Gunabrain

- Gluten- and added sugar-free

### Composition

Bulking agents: microcrystalline cellulose, calcium diphosphate; N-acetylcysteine, green tea (*Camellia sinensis* (L.) Kuntze) leaf dry extract standardized to 98% polyphenols (40% EGCG), *Withania somnifera* (L.) Dunal root dry extract, anticaking agents: cross-linked sodium carboxymethyl cellulose, magnesium stearate of plant origin, silicon dioxide, stearic acid of plant origin; co-enzyme Q<sub>10</sub>, coating agent: hydroxypropyl methylcellulose; manganese carbonate, stabiliser: polyvinyl polypyrrolidone; seleniomethionine, colouring: titanium dioxide, copper chlorophyllin.

## Nutritional information

	1 tablet	%RDA
Energy	1.7 kcal (7.1 kj)	
Protein (N X 6.25)	0 g	
Carbohydrate	0.160 g	
Total fat	0 g	
Coenzyme Q <sub>10</sub>	20 mg	
Manganese	5 mg	250
Selenium	50 mcg	91
N-acetylcysteine	250 mg	
Green tea dry extract	100 mg	
<i>Withania somnifera</i> dry extract	100 mg	

## Fields of application

- Cases of intense mental activity due to **study, work, intellectual stress**
- For the prevention of **cognitive deterioration** during the initial or moderately advanced phase
- To aid cerebral function recovery following **TIAs** (transient ischemic attacks), due to an improvement in arterial microcirculation
- As specific protection against the oxidative damage that causes **the ageing of central nervous system cells**.

## Directions

The dose varies according to the level of cerebral stress.

**The recommended dose is one tablet a day.**

**Higher doses can be taken if prescribed by a doctor.** Tablets should be taken with a little water, preferably on an empty stomach.

## Warnings

Store away from direct light, in a cool, dry place. Do not exceed the recommended daily dose. Keep out of the reach of children under the age of 3 years. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle. Do not administer to children under three years of age.



**Pack containing  
30 x 0.84 g tablets  
Net weight 25.2 g**



## Gunaelmint

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### What is Gunaelmint?

Guna's phytotherapy research has led to the development of Gunaelmint, a new natural adjuvant against parasitic intestinal worm infestation.

Gunaelmint is a latest generation dietary supplement containing **Pumpkin** seed, **Myrrh** and **Turmeric** extracts that, with its synergetic and complementary action, favours the intestine's depuration of environmental and dietary toxins and, above all, of intestinal parasites. Gunaelmint promotes kidney and liver function and the physiological immune defences, thanks to their special antioxidant properties.

Gunaelmint is recommended in cases of **intestinal parasitic infestation**:

- it favours the eradication of Helminths
- it prevents re-infestation
- it purifies the intestine
- it supports the immune system.

### When to use Gunaelmint

Helminths can easily establish in the intestine, from where they can migrate to other organs (liver, lungs, etc.) and, despite remaining silent, they can cause significant alterations in intestinal function in particular and the body in general, causing a vast range of disorders known as "vague and undefined symptoms" that are often not related to intestinal parasite infestation, such as: constipation, diarrhoea, abdominal bloating, irritable colon, feeling of tiredness, irritability and difficulties falling asleep, reduced nutrient absorption, with a tendency to weight loss.

Children are particularly prone to contact with parasitic worms and their eggs, and in turn they become a source of contagion for the adult family members they come into contact with.

In younger subjects, in particular following pin worm infestation, the cohort of symptoms is characterised by:

- anal itchiness
- restlessness and irritability
- tiredness
- insomnia
- abdominal pain
- urticaria and/or itchy skin
- appetite alterations.

## Which parasitic intestinal worms is Gunaelmint effective against?

*Enterobius vermicularis* (Nematodes - Oxyures)

*Toxocara canis* (Nematodes - Ascaris)

*Oesophagostomum* spp. (Nematodes - Strongyloides)

*Railletina* spp. (Platelminths - Cestodes)

*Schistosoma* spp. (Platelminths - Trematodes)

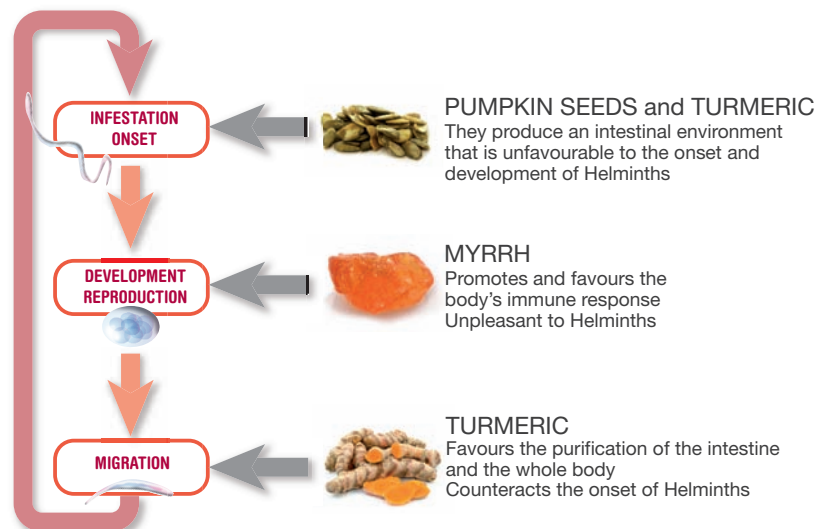
*Fasciola* spp. (Platelminths - Trematodes)

*Heterophyes heterophyes* (Platelminths - Trematodes)

*Tenia* spp. (Platelminths - Cestodes).

## How Gunaelmint acts

Thanks to the synergetic action of its ingredients, Gunaelmint creates conditions that are particularly unfavourable to the establishment in the intestine of parasitic intestinal worms such as pinworms, roundworms, tapeworms and flukes, causing their paralysis and favouring their spontaneous eradication and the elimination of their toxins without side effects for the organism, simultaneously promoting a physiological immune response.



Gunaelmint is active throughout the life cycle of Helminths:

### **Gunaelmint: the ingredients**

**Pumpkin seeds** dry extract (*Cucurbita pepo* L.)

Their natural extracts contain **cucurbitin**, a rare pyrrolizidine amino acid that creates unfavourable conditions for the establishment and survival of parasitic intestinal worms and their larvae. Cucurbitin also helps to paralyse Helminths and favours their physiological expulsion. These extracts also have purifying properties for the entire organism.

- **Myrrh** gum resin dry extract (*Commiphora myrrha* Nees)

Various studies suggest that its extracts are particularly unpleasant for helminths; it has also been observed that they perform an important support function for the immune system.

- **Turmeric rhizome** dry extract (*Curcuma longa* L.)

Its extracts contain **curcuminoids** (cyclocurcumin, curcumin, demethoxycurcumin, bisdemethoxycurcumin), active ingredients that create conditions that are particularly unfavourable to the establishment of Helminths and support the immune system. Turmeric extracts also have antioxidant and liver-protecting properties.

### **The ADVANTAGES OF Gunaelmint**

- Unique formula
- Maximum natural synergetic activity (broad spectrum of action)
- Supports the immune system
- Maximum safety
- Toxic to worms, harmless to humans
- Gluten- and lactose-free

### **Composition**

Pumpkin (*Cucurbita pepo* L.) seeds dry extract, flavouring, myrrh (*Commiphora myrrha* Nees) gum resin dry extract, curcuma (*Curcuma longa* L.) rhizome dry extract, maltodextrin, thickening agents: gum arabic, xanthan gum; acidity regulator: citric acid; sweetener: sucralose.

## Nutritional information

	100 g	3 sachets
Energy	365.3 kcal 1549.0 kj	46.0 kcal 195.2 kj
Protein (N X 6.25)	0.40 g	0.05 g
Carbohydrate	83.65 g	10.54 g
Total fat	0.03 g	0.00 g
Pumpkin dry extract	2.38 g	300 mg
Myrrh dry extract	1.67 g	210 mg
Turmeric dry extract	0.79 g	100 mg

## Directions

1 sachet 3 times a day for 5 days; after 15 days repeat with a second 5-day cycle. Dissolve the contents of one sachet in a glass of water, stir and drink immediately.

## Warnings

Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. Do not exceed the recommended daily dose. Keep out of the reach of children under the age of 3 years. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle.



**Pack containing  
30 x 4.2 g sachets  
Net weight 126 g**



## Gunamino Formula

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### The history of Gunamino Formula

Gunamino Formula marked a turning point in the nutrition field and in particular in the management of excess weight and clinical dietary supplementation.

The scientific history of essential amino acid identification started in 1820, with the discovery of leucine and continued over the years up to a first important conclusion when, in 1974, the eighth essential amino acid was discovered by W. Rose.

It was then that specific research studies started to establish whether or not there was an ideal combination of specific essential amino acids for the human body.

Today, almost two hundred years later, we are in possession of the **amino acid profile specific to the human race**, which was obtained by studying the relationship of mutual percentage prevalence of the 8 essential amino acids in a very high number of proteins.

This knowledge formed the basis for Gunamino Formula, the dietary supplement containing the **8 essential amino acids** in a balanced, ideal combination, specifically studied for use in humans.

### The characteristics of Gunamino Formula

**Origin** Gunamino Formula amino acids are ultrapure, crystallised and of biotechnological origin.

**Peculiarity** The peculiarity of the Gunamino Formula blend of amino acids lies in its **special proportional relationship between the 8 essential amino acids**, the only one that allows their optimal absorption and maximum use through the anabolic pathway.

The special balance between the amino acids in Gunamino Formula means that they do not undergo deamination, a biochemical event that occurs when even just one of the 8 essential amino acids in the blend is present in an unbalanced quantity in relation to the others.

This aspect was brought to light in 1946 by Block and Mitchell, who were the first to show that the eight essential amino acids must be simultaneously present for protein synthesis, in order to prevent the intracel-



lular deficiency of one or more of them from limiting the use of the others, thereby reducing the rate of protein synthesis.

Amino acid metabolism is self-limiting, i.e. the 8 essential amino acids must be administered simultaneously and in a specific and unique qualitative and quantitative ratio to obtain optimum protein synthesis. The intracellular deficiency of one or more amino acids limits the use of the others, which reduces the protein synthesis rate and increases the production of nitrogen residues.



**Safety** These unique characteristics of Gunamino Formula give it an excellent safety profile. Thanks to its amino acid profile, only a very small percentage of amino acids follows the catabolic pathway, so that Gunamino Formula:

- is absorbed within a few minutes, without digestive effort
- does not produce nitrogenous waste and does not overload the kidneys and liver
- provides, with the lowest weight and volume, a higher biological value of protein than any other food.
- provides a minimal calorie intake.
- Gunamino Formula does not contain ingredients from genetically-modified organisms (GMO-free).

**Efficacy profile** Gunamino Formula boasts the highest **biological value of protein** (BVP), defined as the relationship between withheld and absorbed Nitrogen, according to the formula:

$$BVP = \frac{N \text{ food} - (N \text{ faeces} - N \text{ metab.}) - (N \text{ urine} - N \text{ endog})}{N \text{ food} - (N \text{ faeces} - N \text{ metab})}$$

BVP: Biological value of protein  
N food.: Nitrogen in foods  
N faeces :Nitrogen in faeces  
N urine: Nitrogen in urine  
N metab: metabolic nitrogen  
N endog: endogenous nitrogen

The BVP represents the index of nobility of a protein and indicates the nutritional capacity of a protein food or blend of amino acids.

### Fields of application

Gunamino Formula is the amino acid first choice supplement in the dietetics and clinical nutrition fields.

In Dietetics, Gunamino Formula offers unique opportunities.

It is a supplement whose metabolic characteristics allow it to cause a reduction in fat mass and simultaneously feed lean mass, with a minimal calorie intake.

The requisite for weight loss (i.e. in order to obtain a negative energy balance) is perfectly satisfied by Gunamino Formula, which makes it possible to lower the dietary calorie regimen, forcing the body to use the fat mass as a source of energy, at the same time preventing it from attacking the lean mass, which is perfectly nourished by the special blend of amino acids. The use top Gunamino Formula during weight loss:

- reduces fat mass
- protects the lean mass
- firms the tissues
- controls hunger
- avoids the yo-yo effect.

Gunamino Formula is ideal in Clinical Nutrition and it enjoys a privileged position in primary prevention and in the complementary treatment of many medical conditions, particularly chronic-degenerative ones.

Gunamino Formula's unique characteristics guarantee ideal nutritional conditions in chronic or debilitated patients.

It guarantees:

- fast and complete intestinal absorption (with almost no consequent digestive effort)
- the extremely reduced production of nitrogenous waste (without a consequent renal overload)
- a reduction in catabolic processes, with a reduction in the impoverishment of the protein make-up (hormones, cytokines, neuropeptides, as well as muscle and bone mass)
- the maximisation of protein synthesis (with a general benefit for the patient's strength).

Some of the medical conditions Gunamino Formula is used for include:

### **Anaemia**

The use of Gunamino Formula guarantees adequate support to the haemoglobin heme group protein structure.

### **Inflammatory Bowel Diseases**

Using Gunamino Formula makes it possible to control the diet with a reduction in or elimination of the intake of immunogenic foods.

### **Malnutrition**

Gunamino Formula maximises protein synthesis and counters muscle catabolism, which guarantees mass, strength and resistance. It is recommended in situations of prolonged malnutrition or in transient conditions (loss of appetite or inability to eat due to illness).

### **Foetal hyposomia**

Gunamino Formula guarantees an ideal amino acid intake in a phase (foetal development) of increased anabolic demand.

### **Metabolic syndrome**

The Gunamino Formula dietary programme favours weight loss and consequent control over the abdominal obesity risk factor.

### **Chronic renal insufficiency**

Thanks to its minimal production of nitrogenous waste, Gunamino Formula does not overload kidney function and it improves the patient's nutritional status.

### **Ageing**

In elderly subjects, Gunamino Formula guarantees a protein intake able to maintain the plasticity of the tissues and to counteract accelerated protein catabolism and the hormonal and immune decline typical of ageing.

## Composition

**Sachets:** Blend of essential amino acids (77%) (L-Leucine, L-Valine, L-Isoleucine, L-Lysine hydrochloride, L-Phenylalanine, L-Threonine, L-Methionine, L-Tryptophan), maltodextrin, acidity regulator: citric acid; flavourings, emulsifier: sucrose esters of fatty acids; sweetener: sucralose.

**Tablets:** L-Leucine, L-Valine, L-Isoleucine, L-Lysine hydrochloride, L-Phenylalanine, L-Threonine, L-Methionine, L-Tryptophan, coating agents: hydroxypropyl methylcellulose, shellac, E472; bulking agent: microcrystalline cellulose; pigment of colorant: E171.

## Nutritional information

	1 sachet	5 tablets
Energy	25.2 kcal 107.2 kJ	20 kcal 85 kJ
Protein (N X 6,25)	0.00 g	0.00 g
Carbohydrate	1.05 g	0.00 g
Total fat	0.01 g	0.00 g
L-Leucine	1000 mg	1000 mg
L-Valine	800 mg	800 mg
L-Isoleucine	750 mg	750 mg
L-Lysine	700 mg	700 mg
L-Phenylalanine	650 mg	650 mg
L-Threonine	550 mg	550 mg
L-Methionine	350 mg	350 mg
L-Tryptophan	200 mg	200 mg

## Directions

**Sachets:** dissolve the content of one sachet in a glass of water (200 ml) or another drink, and stir well.

**Tablets:** swallow tablets with a little water.

## Posology

**Dietetics:** according to the Gunamino Formula dietary programme.

**Clinical nutrition:** 5-10 tablets or 1-2 sachets a day. Depending on the patient's general conditions, the posology can be increased to 15 – 20 tablets or 3-4 sachets.

## Warnings

Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. Do not exceed the recommended daily dose. Keep out of the reach of children under the age of 3 years. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle.



**Pack containing**  
**24 x 6.5 g sachets**  
**Net weight 156 g**

**42 x 6.5 g sachets**  
**Net weight 273 g**

**Pack containing**  
**50 x 1.01 g tablets**  
**Net weight 50.5 g**

**150 x 1.01 g tablets**  
**Net weight 151.5 g**



## Gunamino Formula Sport

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### The history of Gunamino Sport

Gunamino Formula Sport is the balanced blend of essential amino acids, vitamins, magnesium and antioxidants specifically studied to meet the dietary supplementation needs of sports men and women.

It represents the ideal nutritional unit for sport because it combines the plastic activity of the **amino acids** (muscular strength, mass and resistance), the metabolic energetic function of **group B vitamins**, the promotion of muscular function of **Magnesium** and its ability to counteract the onset of muscle cramps and, above all, the antioxidant protection of **Powergrape®**, a special grape extract (standardized to 90% polyphenols) with a high capacity for free radical absorption.

### When to use Gunamino Formula Sport

Adequate amino acid re-integration combined with a daily antioxidant intake are always fundamental for those practising sports.

The power that a muscle can develop is fundamentally related to the number of fibers that contract inside it: the greater the number of these fibers, the greater the strength developed.

This is why muscles with a greater section, due to a greater number of fibres (hyperplasia) or, as often occurs, with thicker fibres (hypertrophy), are able to express greater strength. The increase in muscle mass is a fundamental element for the development of power.

When an intense physical effort is demanded of the muscle (strength exercises are those that develop muscle mass), the body, through the central and peripheral nervous system, implements an adaptation response to the stress that causes the muscle on the one hand to repair the damage to its structure (**anticatabolic phase**) and, on the other, to increase its volume to adjust to the increased need (**anabolic phase**).

However, an increase in muscle mass means an increase in protein synthesis: once protein neo-synthesis has been stimulated, the units used to build these new proteins – the amino acids – must be available.

Amino acid supplements are not all the same: the human amino acid profile is very precise and unique. Only the ideal qualitative and quantitative amino acid composition can guarantee their maximum absorption.

Thanks to its special balance of the 8 essential amino acids, Gunamino Formula Sport:

- guarantees a minimal nitrogen residue
- is rapidly absorbed in just a few minutes
- does not overload kidney and liver function
- provides, with the lowest weight and volume, a greater protein value than any other nourishment.

### **Why combine essential amino acids with antioxidants, vitamins and magnesium in Gunamino Formula Sport?**

#### **Antioxidants**

Intense or prolonged athletic performances generate high oxidative stress, which leads to a hyperoxidation of the cell structures. This can lead to muscle damage, cramps, fatigue and slower recovery. The balance between oxidative stress and oxidising systems must be restored through appropriate dietary supplementation. Powergrape® has potent antioxidant properties, especially against the free radicals produced during athletic performance.

**Powergrape®** protects the body against the oxidative stress caused by sports activity and prevents the damage caused by the free radicals produced during muscular effort

Clinical studies<sup>2</sup> show that Powergrape®:

- improves athletic performance
- reduces the risk of muscle injuries
- increases cell oxygenation.

**Magnesium:** favours muscle function and reduces the onset of muscle cramps.

**B group vitamins:** boost the cell's energy metabolism (muscle fibre cells).

### **How does Gunamino Formula Sport work**

- It maximises muscle strength, resistance and mass
- It improves athletic performance
- It accelerates recovery processes after intense training sessions and competitions
- It protects the body against oxidative stress.

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<sup>2</sup> Lafay S. et Al. - Grape extract improves antioxidant status and physical performance in elite male athletes – *Journal of Sports Science and medicine* (2009) 8, 468-480

## Composition

Blend of essential amino acids (L-Leucine, L-Valine, L-Isoleucine, L-Lysine hydrochloride, L-Phenylalanine, L-Threonine, L-Methionine, L-Tryptophan), maltodextrin, acidity regulator: citric acid; magnesium oxide, Powergrape® (*Vitis vinifera* L. fruit dry extract), flavourings, emulsifier: sucrose esters of fatty acids; sweetener: sucralose; cyanocobalamin (vitamin B12), riboflavin-5- sodium phosphate (vitamin B2), pyridoxine hydrochloride (vitamin B6), thiamine hydrochloride (vitamin B1).

## Nutritional information

	1 sachet	% VNR
Energy	27.1 kcal	
	115.5 kj	
Protein (N X 6.25)	0.003 g	
Carbohydrate	1.311 g	
Total fat	0.001 g	
L-Leucine	1000 mg	
L-Valine	800 mg	
L-Isoleucine	750 mg	
L-Lysine	700 mg	
L-Phenylalanine	650 mg	
L-Threonine	550 mg	
L-Methionine	350 mg	
L-Tryptophan	200 mg	
Magnesium	150 mg	40
Vitamin B2	1.4 mg	100
Vitamin B6	1.4 mg	100
Vitamin B1	1.1 mg	100
Vitamin B12	2.5 mcg	100
Powergrape® standardized to 90% polyphenols	200 mg	

## Directions

The recommended dose is two sachets a day, taken before and after exercise. Dissolve the content of one sachet in a glass of water, fruit juice or other drink, and stir well.

**Pack containing**  
**24 x 7.5 g sachets**  
**Net weight 180 g**

**42 x 7.5 g sachets**  
**Net weight 315 g**

## Warnings

Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. The product should be used as part of a varied, balanced diet and a healthy lifestyle. Do not exceed the recommended doses. Do not use in pregnancy and children or for prolonged periods.





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## Omega Formula

### What is Omega Formula?

Omega Formula is a dietary supplement that, thanks to its specific synergistic formulation, **helps to protect the cardiovascular system from the various risk factors.**

Omega Formula, containing red yeast rice standardized to Monacolin K (10 mg), micronised seed of the Baobab fruit Gen. *Adansonia* sp. (containing Omega3-Omega6-Omega9 in a balanced ratio), Vitamin B6 and Folic Acid, is recommended in cases of: overweight, obesity, hypercholesterolaemia, hypertriglyceridaemia and hyperhomocysteinaemia secondary to dietary imbalance. Omega Formula's nutritional ingredients boast high bioavailability: as they pass through the stomach, its polyunsaturated fatty acids **are protected naturally by the fibers contained in the Baobab seeds.**

Omega Formula ingredients are not obtained from genetically-modified organisms (GMO-free) and they do not contain lactose.

### Why use Omega formula?

Regular use of Omega Formula, combined with a balanced diet and healthy lifestyle helps to:

- **maintain the correct ratio between LDL and HDL cholesterol levels**
- **normalise the levels of triglycerides in the blood**
- **balance homocysteine levels.**

### Synergy and completeness of the composition of Omega Formula:

#### Red yeast rice

Obtained from the natural fermentation of rice (*Oryza sativa* L.) with a yeast, *Monascus purpureus*, which produces Mevinoline and Monacolin K: these molecules have been seen to significantly favour the reduction in LDL cholesterol and triglyceride levels, without side effects. **Monacolin K** is a natural inhibitor of the enzyme **HMG-CoA reductase, which is responsible for the production of mevalonic acid**, a key reaction in the formation of endogenous cholesterol.

#### Micronised Baobab fruit seed

Thanks to the special production technique, the fibers rich in **Omega3-Omega6-Omega9** and phytosterols remains unaltered.

One of the most important characteristics of Omega Formula is the amount of Omega6, which is involved in reducing the LDL/HDL ratio.

### Vitamin B6

30% of the elderly are vitamin B6-deficient and this deficiency is associated with an increased cardiovascular risk: the daily dose of Omega Formula **provides more than 200% of the recommended daily intake**, which helps to reduce cardiovascular risk factors.

### Folic acid

Another important factor associated with cardiovascular risk is a rise in homocysteine levels: recent studies suggest that implementing the daily intake of folic acid through the diet and dietary supplementation has preventing effects.

The daily dose of Omega Formula **provides 150% the recommended daily intake of Folic Acid**.

Given its polyphenol content, **bitter cocoa** is also attributed a cardiovascular protection action.

### Composition

Sweetener: sorbitol (from corn or wheat); Baobab (*Adansonia digitata* L.) micronized seed, red yeast rice (*Monascus purpureus*) dry extract standardized to 1.5% monacolin K, maltodextrins, unsweetened cocoa powder, flavoring, anti-caking agents: silicon dioxide, sodium carboxymethylcellulose, vegetable magnesium stearate; sweetener: sucralose; pyridoxin hydrochloride (vitamin B6), pteroyl-glutamic acid (folate).

## Nutritional information

	100 g	3 tablets	%NRV
Energy	230.9 kcal 964.4 kj	13.9 kcal 57.9 kj	
Protein (N X 6.25)	6.80 g	0.41 g	
Carbohydrate	57.40 g	3.44 g	
polyalcohols	48.90 g	2.93 g	
Total fat	5.82 g	0.35 g	
Baobab seed of which	25 g	1500.00 mg	
Omega3	0.09 g	5.40 mg	
Omega6	1.49 g	89.25 mg	
Omega9	1.43 g	85.95 mg	
Polyphenols	0.03 g	1.50 mg	
free sterols	0.09 g	5.10 mg	
Vitamin B6	50 mg	3 mg	214
Folate	5000 mcg	300 mcg	150
Red yeast rice	11.11 g	666.66 mg	
monacolin K	0.17 g	10 mg	

## Directions

The recommended dose is 3 chewable tablets a day, 1 during or after each meal, depending on diet. Tablets should be chewed.

**The recommended daily dose for best results is 10 mg of Monacolin K from red yeast rice preparations, equal to 3 tablets a day.**

## Warnings

Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. Do not exceed the recommended daily dose. Keep out of the reach of children under the age of 3 years. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle. Excessive use may have laxative effects. Ask your doctor for advice on using the product. Do not use during pregnancy, breastfeeding and treatment with lipid-lowering drugs.

Pack containing  
80 x 2 g chewable  
tablets  
Net weight 160 g



## Omeotoxnoni

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### What is Omeotoxnoni?

Omeotoxnoni is a supplement available in both liquid and sachet form, containing plant ingredients and developed to stimulate the body's natural defences and promote respiratory tract functionality.

### When to use Omeotoxnoni

Omeotoxnoni is not only recommended in cases of productive cough with tracheobronchial involvement (a very common clinical situation amongst elderly patients), it is also a valid solution in conditions of **asthenia** secondary to inflammatory and infectious respiratory tract disorders: it speeds up recovery from symptoms, reducing convalescence times.

### How does Omeotoxnoni work?

Two fundamental nuclei can be identified in its composition.

**1<sup>st</sup> nucleus:** is constituted by 14 plant substances, selected according to synergy of action and complementarity principles, with specific tropism for the upper, middle and low airways and a vast spectrum of action:

- **anti-inflammatory**
- **mucolytic and mucoregulatory**
- **expectorant**
- **spasmolytic and bronchodilator**
- **emollient and soothing**
- **antibacterial.**

**2<sup>nd</sup> nucleus:** : the “core of Omeotoxnoni. The juice of *Morinda citrifolia* L. (Noni), native to Polynesia, which is present in the product in high concentrations, has an antibacterial, antiviral, antimycotic, antitumoural and, in general, immunostimulating action. *Morinda citrifolia* L. (Noni) is known to have firming and restorative properties.

Omeotoxnoni has a dual mechanism of action:

#### **Tonic – catalytic - immunostimulating action**

*Morinda citrifolia* L. (Noni), thanks to its high content of pro-xeronine, which is transformed inside the body into the alkaloid xeronine, stimulates cell enzymatic activity (metabolic co-regulation action); Noni also possesses immunostimulating and tonic properties.

### Respiratory system actions

- **ant inflammatory** action (Licorice, Yellow Startwort, Common Mallow, Propolis, English Plantain)
- **mucolytic** and **mucoregulatory** action (Yellow Startwort, Cowslip)
- **expectorant** action (Maidenhair Fern, Great Valley Gumweed, Cowslip, Tolu balsam)
- **spasmolytic** and **broncodilator** actions (Round-leaf Sundew, Curry Bush)
- **emollient** and **soothing** action (Common Mallow, English Plantain)
- cough **sedating** action (Maidenhair Fern, Round-leaf Sundew, Great Valley Gumweed, White horehound, Corn poppy, Tolu balsam)
- **antibacterial** action (Round-leaf Sundew, Great Valley Gumweed, Curry Bush, English Plantain, Cowslip, Propolis, Rosemary, Tolu balsam)

### Composition

**Sachets:** Maltodextrin, Yellow Startwort (*Inula helenium* L.) root and rhizome dry extract., Noni (*Morinda citrifolia* L.) powdered juice, Corn Poppy (*Papaver rhoeas* L.) petals dry extract, Ribwort Plantain (*Plantago lanceolata* L.) leaves dry extract, Rosemary (*Rosmarinus officinalis* L.) leaves dry extract, Great Valley Gumweed (*Grindelia robusta* Nutt.) flowering tops dry extract, Mallow (*Malva sylvestris* L.) flowers and leaves dry extract, Cowslip (*Primula veris* L.) flowers dry extract, Propolis (*Propolis*) extract standardized to 3% galangin, acidity regulator: citric acid; flavouring, Maidenhair Fern (*Adiantum capillus-veneris* L.) plant dry extract., Round-leaf Sundew (*Drosera rotundifolia* L.) aerial parts dry extract, Licorice (*Glycyrrhiza glabra* L.) root dry extract, Curry Plant (*Helichrysum italicum* Don.) flowering tops dry extract, Black Horehound (*Ballota nigra* L.) flowering tops dry extract, sweetener: sucralose.

**Bottle :** Water, Noni (*Morinda citrifolia* L.) juice, Fructose, Yellow Startwort (*Inula helenium* L.) root and rhizome, Mallow (*Malva sylvestris* L.) leaves, Corn Poppy (*Papaver rhoeas* L.) flowers, Rosemary (*Rosmarinus officinalis* L.) young shoots, Tolou balsam (*Myroxylon balsamum* L. Harms var. balsamum), Common plantain (*Plantago major* L.) leaves, Great Valley Gumweed (*Grindelia robusta* Nutt.) herb and flowers, Cowslip (*Primula veris* L.) root and rhizome, Maidenhair Fern (*Adiantum capillus veneris* L.) herb, Round-leaf Sundew (*Drosera rotundifolia* L.) herb and flowers, Licorice (*Glycyrrhiza glabra* L.) root, Curry Plant (*Helichrysum Stoechas* Moench.) tops, White Horehound (*Marrubium vulgare* L.) herb and flowers, Thickening agent: hydroxypropyl methylcellulose, Propolis (*Propolis*),. Preservatives: potassium sorbate, sodium benzoate.

## Nutritional information

	<b>3 sachets</b>	<b>1 sachet</b>
Energy	50.2 kcal 213.4 kJ	16.7 kcal 71.1 kJ
Protein (N X 6.25)	0.020 g	0.007 g
Carbohydrate	12.262 g	4.087 g
Total fat	0.019 g	0.006 g
Yellow Startwort dry extract	1140 mg	380 mg
Powdered noni juice	600 mg	200 mg
Corn poppy dry extract	450 mg	150 mg
English Plantain dry extract	450 mg	150 mg
Rosemary dry extract	450 mg	150 mg
Great Valley Gumweed dry extract	360 mg	120 mg
Common Mallow dry extract	360 mg	120 mg
Primula e.s.	360 mg	120 mg
Propolis dry extract	360 mg	120 mg
Maidenhair Fern dry extract	225 mg	75 mg
Round-leaf Sundew dry extract	225 mg	75 mg
Liquorice dry extract	225 mg	75 mg
Curry Bush dry extract	225 mg	75 mg
Black Horehound dry extract	225 mg	75 mg

	<b>30 ml</b>
Energy	36.74 kcal 155.31 kJ
Protein	0.045 g
Carbohydrate	7.18 g
Fat	0.015 g
Noni	7.50 ml
Maidenhair Fern	0.30 ml
Tolu balsam	0.60 ml
Round-leaf Sundew	0.30 ml
Liquorice	0.30 ml
Great Valley Gumweed	0.45 ml
Curry Bush	0.30 ml
Yellow Startwort	1.50 ml
Common Mallow	0.60 ml
White Horehound	0.30 ml
Corn poppy	0.60 ml
English Plantain	0.60 ml
Cowslip	0.45 ml
Propolis	0.15 ml
Rosemary	0.60 ml

### Fields of application

- Non-sedative treatment of productive cough and natural defence stimulation
- Fluidification of bronchial secretions
- Co-adjuvant in the treatment of acute and chronic tracheobronchitis.

### Directions

**Sachets:** 1 sachet 2-3 times a day.

Dissolve content in a glass of warm or cold water.

**Bottle:** 1 measuring cup (10 ml) 2-3 times a day.

### Warnings and contraindications

Do not exceed the recommended daily dose (unless advised to do so by a doctor). Keep out of the reach of children under three years of age. Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle.



150 ml bottle with  
measuring cup and  
safety lock

Pack containing 16  
x 4.5 g sachets  
Net weight 72 g



## Ovix

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### What is Ovix?

Ovix is a dietary supplement in tablet form, containing homogenised quail egg and Zinc recommended for the prevention and treatment of allergic conditions.

### When to use Ovix

As a co-adjuvant for the treatment of:

- **allergic rhinitis**
- **allergic asthma**
- **pollinosis** (hay fever)
- **allergic eczema**

### How does Ovix work

The use of **wild quail eggs** of the *Coturnix japonica* breed B- Mina variety arises from traditional Japanese medicine, which for over four hundred years has used quail eggs **to prevent allergies**.

In Europe, over the last thirty years, laboratory experiments and clinical research have proven the scientific bases of the Japanese tradition to be valid, showing that supplementation with quail eggs exerts a modulating action on allergic reactions on both a cellular and humoral level that is useful in specific allergy therapy.

A patented industrial procedure was therefore devised to make it possible to select only the specific fraction of the quail egg with antiallergic activity and to create tablets with a very low egg homogenate content.

**Zinc** is an essential mineral for the body and is involved in the composition of a great many enzymes. In allergic conditions, Zinc acts as an **immune response regulator**.

### Composition

Sweetener: sorbitol; Quail egg homogenate; zinc bisglycinate 20%; Anticaking agents: Magnesium stearate (of plant origin).

### Nutritional information

	100 g	3 tablets	% NRV
Zinc	214.4 mg	1.61 mg	16
Quail egg homogenate	4.8 g	36 mg	



## Directions

### Prevention

*Children aged 3 to 12 years, 1-2 tablets a day*

*Children aged 12 to 16 years, 1-3 tablets a day*

*Adults, 3 tablets a day.*

From a few days before exposure until a few days after exposure.

### During the reaction

*Children aged 3 to 12 years, 2-3 tablets a day*

*Children aged 12 to 16 years, 3-5 tablets a day*

*Adults, 6-12 tablets a day.*

**The use of Oviz during allergic reactions must be considered as a co-adjuvant: its use makes it possible to reduce the dose of usually administered homeopathic or allopathic drug.**

### Maintenance

*Children aged 3 to 12 years, 1-2 tablets a day*

*Children aged 12 to 16 years, 1-3 tablets a day*

*Adults, 3 tablets a day.*

## Warnings

Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. Keep out of the reach of children under three years of age. Do not exceed the recommended daily dose. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle. Excessive use may have laxative effects.



**Blister pack  
containing 60 x 250  
mg tablets to  
be dissolved under  
the tongue  
Net weight 15 g**



## Profem™

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### What is Profem?

Specifically devised for female wellness, the formulation of Profem has been studied to optimise the bioavailability and absorption of its natural ingredients, such as isoflavones (76 mg per sachet) and the specific nutrients that favour a balanced gut flora.

### Why Profem is unique

Profem was developed to obtain a compound in which each ingredient exerts its action in a synergetic and complementary way to all the others. The action of Profem is fortified by the presence of 6 “microencapsulated gastroprotected” lactic acid bacteria with a probiotic action. The use of this certified technique improves the survival capacity of all the probiotic bacteria during their gastroduodenal transit, to allow all the strains to reach the intestine alive and healthy. Here, the probiotic bacteria activate the isoflavones, making them more bioavailable.

### How does Profem act

Profem has 4 nuclei with synergetic actions:

#### 1<sup>st</sup> nucleus: the isoflavones pool

The core of Profem is the nucleus of isoflavones (76 mg per sachet), the most important category of natural phytoestrogens, of plant origin, titrated and standardised.

Profem contains a unique pool of isoflavones of plant origin (Genistein, Daidzein, Coumestans, Formononetin, Puerarin) derived from **Soy**, **Pueraria lobata Merr.** (Kudzu) and **Red clover**. Their special proportional combination exerts an effective control action over even intense vasomotor symptoms (nocturnal perspiration, hot flushes, mood swings, etc.) that occur during the menopause.

The ingredients in the 1st nucleus are:

**Soy** (*Glycine max* Merr.): plant with a very high content of isoflavones (especially Genistein and Daidzein) with a hormonal-like action.

**Pueraria lobata Merr.** (Kudzu): contains Daidzein, Formononetin and Puerarin, which make it the ideal solution for controlling menopausal symptoms, for its action on the microcirculation and on physiological blood pressure.

**Red clover** (*Trifolium pratense* L.): leguminous plant with a very high content of isoflavones (Formononetin, Coumestans, Daidzein and Genistein), which, being readily absorbable, are highly bioavailable. In addition to targeting neurovegetative symptoms, it also has a cardiovascular and bone protection action.

### 2<sup>nd</sup> nucleus: green tea and melatonin

Alongside the typically endocrine action of isoflavones, the presence of **green tea** in Profem guarantees a significant anti-ageing action, secondary to the plant's antioxidant activity. Green tea also helps to maintain stable body weight.

**Melatonin** is known for its ability to rebalance the circadian rhythms and to maintain neurovegetative balance (particularly during the menopause).

### 3<sup>rd</sup> nucleus: combination of 6 gastroprotected strains of probiotic bacteria

Each of the 6 probiotic *Bifidobacteria* and *Lactobacilli* strains is in gastroprotected microencapsulated form: 100% of the probiotic bacteria reach the various parts of the intestine live and viable, with five times the colonising ability of non-microencapsulated probiotic bacteria<sup>3</sup>, **for the greatest possible availability of the isoflavones.**

**The health of the gut flora is essential for the optimum absorption and biological activity of the isoflavones**, as Daidzein and Genistein (Formononetin is demethylated to Daidzein by *Lactobacilli* glucosidase), are transformed into the active metabolite Equol.

### 4<sup>th</sup> nucleus: short-chain fructo-oligosaccharides (FOSsc) with a specific prebiotic action

Obtained from sugar beet, **they promote and selectively stimulate the development of the probiotic bacteria** – *Lactobacilli* and *Bifidobacteria* - present in the gut microbiota:

FOSsc play a positive role in the metabolism of carbohydrates and lipids, they improve intestinal mucosal function and favour the absorption of calcium and magnesium.

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<sup>3</sup> Del Piano M. et Al. – Evaluation of the intestinal colonisation by microencapsulated probiotic bacteria in comparison with the same uncoated strains. J. Clin Gastroenterol. 2010 Sept; 44 Suppl. 1:S42-6.  
Double-blind study

## Who is Profem recommended for

**Pre-menopausal, peri-menopausal and menopausal**, women, who do not wish to use or have contraindications for hormone replacement therapy or who prefer to use natural replacement options.

Thanks to its presence amongst the gastroprotected microencapsulated probiotic strains of *Lactobacillus rhamnosus* LR06 and *Lactobacillus plantarum* LP02, both of which are able to produce coliform bacteria-limiting active substances (bacteriocins), is in particular recommended even in subjects with frequent recurrent genito-urinary tract infections, caused by *Escherichia coli*.

## The ADVANTAGES of Profem

- It provides isoflavones of different natural origins and selected nutrients, for broader coverage to promote female psycho-physical wellness.
- The total isoflavone content is 76 mg for each daily dose (1 sachet)
- Gluten, lactose and glucose-free
- Its plant ingredients are not obtained from genetically-modified organisms (GMO-free)
- Presence of melatonin, which rebalances the neuroendocrine circuits and helps to fall asleep quickly

## Composition

Fructo-oligosaccharides (FOS); Fructose; Soy extract (min. 10% isoflavones); Baked apple flavouring; Green tea extract (min. 50% polyphenols); Anticaking agent: silicon dioxide; extract of Pueraria lobata root (min. 40% isoflavones); Acidifier: citric acid; Microencapsulated probiotic micro-organisms: *Bifidobacterium lactis* BS01 (LMG P-21384), *Lactobacillus acidophilus* LA02 (DSM 21717), *Lactobacillus paracasei* LPC00 (LMG P-21380), *Lactobacillus plantarum* LP02 (LMG P-2 1020), *Lactobacillus rhamnosus* LR06 (DSM 21981), *Lactobacillus salivarius* LS03 (DSM 22776); Sweetener: sucralose; Clover extract (min. 8% in isoflavones); Melatonin; Sweetener: sorbitol.

## Nutritional information

	1 sachet
Energy	12.05 kcal (50.44 kJ)
Total fat	18 mg
of which saturated fatty acids	8 mg
Carbohydrate	2.425 mg
of which sugars	1.478 mg
Fiber	947 mg
Protein	148 mg
Salt	1.07 mg
Fructooligosaccharides (FOS)	1,000 mg
Soy extract	360 mg
of which isoflavones standardized to 103.7 mg/g	37.33 mg
Green tea extract min. 50% polyphenols	150 mg
Extract of <i>Pueraria lobata</i>	100 mg
of which isoflavones standardized to 418.5 mg/g	41.85 mg
Clover extract	5 mg
of which isoflavones standardized to 89.9 mg/g	0.45 mg
Melatonin	1 mg

### Functional components

*Bifidobacterium lactis* BS01; *Lactobacillus rhamnosus* LR06; *Lactobacillus paracasei* LPC00; *Lactobacillus acidophilus* LA02; *Lactobacillus plantarum* LP02; *Lactobacillus salivarius* LS03

(Colony-forming units) **total CFU  $\geq 2 \times 10^9$**

## Directions

The recommended dose is one sachet a day, preferably between meals. Dissolve the content of the sachet in half a glass of water at room temperature, stir well and drink immediately.

## Storage

Keep in a dry place, at temperatures of no more than 25°C and keep out of direct sunlight.

**A minimum total probiotic bacteria content of 2 billion is guaranteed up to the expiration date** indicated on the label, provided the product is stored in its original packaging at a temperature of no more than 25°C.

## Warnings

The expiration date refers to the product correctly stored in its original packaging. Do not use during pregnancy. Do not exceed the recommended daily dose. Keep out of the reach of children under the age of 3 years. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle. Contains soy derivatives.



Pack containing  
20 x 4.7 g sachets  
Net weight 94 g

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## Proflora™

### What is Proflora?

Proflora is a synbiotic dietary supplement, made up of 6 different probiotic bacteria strains, in a gastroprotected, microencapsulated form, associated with prebiotic scFOS (short-chain fructo-oligosaccharides) fibers to **rebalance the intestinal ecosystem**.

### Why Proflora is unique

Thanks to the use of a patented production process, the 6 probiotic bacteria strains present in Proflora are in a gastroprotected microencapsulated form. The use of this technology improves the survival capacity of all probiotic strains during gastroduodenal transit, to allow 100% of the microorganisms to reach the intestine alive and viable for a colonisation rate 5 times higher than obtained using non-microencapsulated strains.<sup>3</sup>

**The probiotic component** belongs to the *Bifidobacterium* and *Lactobacillus* genera and possesses the metabolic characteristics needed to create a synergetic effect that guarantees the ready colonisation of the various parts of the intestine (a phenomenon that lasts over time due to the strains' ability to adhere to the epithelial mucosa, due primarily to the presence of *Lactobacillus salivarius* LS03).

The 6 probiotic strains also include *Lactobacillus rhamnosus* LR06 and *Lactobacillus plantarum* LP02, both of which produce coliform bacteria-limiting active substances.

**The prebiotic component** is made up of fructo-oligosaccharides (FOS), which selectively stimulate the development of the probiotic strains present in Proflora and of all the groups of "beneficial" microbes of the autochthonous gut microbiota.

As they are not hydrolysed by the digestive enzymes or absorbed by the mucosa of the small intestine, scFOS reach the colon intact, where they are selectively fermented by the beneficial component of the gut microbiota, particularly the Lactobacilli and Bifidobacteria.

FOS also play a positive part in the metabolism of carbohydrates and lipids, they improve the structure of the intestinal mucosa, by supporting its "barrier effect" and favour the absorption of certain minerals, particularly calcium and magnesium.

<sup>3</sup> Del Piano M. et Al. – Evaluation of the intestinal colonisation by microencapsulated probiotic bacteria in comparison with the same uncoated strains. J. Clin Gastroenterol. 2010 Sept; 44 Suppl. 1:S42-6.  
Double-blind study

## Why use Proflora?

The intestinal mucosa's nutrient absorption function is accompanied by its immune function secondary to the antigenic stimulation generated by the introduction of food (with its microbial load) and by the presence of a varied flora (**microbiota**) of resident microorganisms that are attached to the walls or in transit.

It is estimated that approximately **98% of the general population suffers from dysbiosis**: a severe impoverishment in the beneficial microbial species (dysbiosis) causes a series of dysfunctions that can have repercussions on the general health of the individual, with an alteration in intestinal function.

The role played by the microbiota is strategic for the correct function of the entire body:

- **digestion of various dietary components**
- **production of trophic substances**
- **interaction with the immune system**
- **prevention of the development of pathogenic microbial species**
- **“barrier effect” that prevents the passage of elements that are potentially harmful to the connective tissue.**

## The ADVANTAGES of Proflora

- **Unique, innovative symbiotic product** with 6 patented probiotic bacterial strains and FOSsc (short-chain fructo-oligosaccharides), with a proven synergetic prebiotic and probiotic action
- Proven high microorganism efficacy and vitality, **that has been fortified 5-fold**, which favours rapid and long-lasting colonisation with a greater adhesion to the intestinal mucosa guaranteed by *Lactobacillus salivarius* LS03
- **Ability to produce bacteriocins against *Escherichia coli***
- **Total load of over 2 billion bacteria/sachet** guaranteed up to the expiration date
- **Free of potential allergens** (in particular cereals containing gluten, molluscs, crustaceans, eggs, fish, peanuts, soya, milk, nuts, celery, mustard, sesame seeds, lupin beans, sulphur dioxide and sulphites in concentrations exceeding 10 mg/kg or 10 mg/l expressed as SO<sub>2</sub>)<sup>4</sup>
- **Also recommended for allergic subjects and those with dietary intolerances**

<sup>4</sup> Pursuant to applicable regulations: Directive 2007/68/EC, Legislative Decree no. 114/2006, Legislative Decree no. 178/2007 and subsequent amendments.



- Completely unscented and flavourless
- High tolerability and compliance

## Fields of application

Complementary treatment of:

- Urogenital infections secondary to intestinal dysbiosis
- Irregular bowel movements with intestinal transit difficulties
- Digestive difficulties
- Irritable Bowel Disease
- Respiratory allergies
- Adverse reactions to food

## Composition

Fructo-oligosaccharides (FOSsc); Potato maltodextrin; Anticaking agent: silicon dioxide; gastroprotected microencapsulated probiotic microorganisms: *Bifidobacterium lactis* BS01 (LMG P-2 1384), *Lactobacillus acidophilus* LA02 (DSM 21717), *Lactobacillus paracasei* LPC00 (LMG P-2 1380), *Lactobacillus plantarum* LP02 (LMG P-2 1020), *Lactobacillus rhamnosus* LR06 (DSM 21981), *Lactobacillus salivarius* LS03 (DSM 22776).

## Nutritional information

	100 g	1 sachet
Energy	270 kcal 1,130 kJ	6.75 kcal 28.26 kJ
Total fat	0.7 g	17.6 mg
of which saturated fatty acids	0.31 g	7.8 mg
Carbohydrate	93.46 g	2,336.5 mg
of which sugars	38.32 g	958 mg
Fibers	55.20 g	1,380 mg
Protein	0.08 g	2 mg
Salt	0.04 g	1 mg

### Functional components

<i>Bifidobacterium lactis</i> BS01	> 40 BLN *	> 1,00 BLN *
<i>Lactobacillus rhamnosus</i> LR06	> 10 BLN *	> 0,25 BLN *
<i>Lactobacillus paracasei</i> LPC00	> 10 BLN *	> 0,25 BLN *
<i>Lactobacillus acidophilus</i> LA02	> 10 BLN *	> 0,25 BLN *
<i>Lactobacillus plantarum</i> LP02	> 10 BLN *	> 0,25 BLN *
<i>Lactobacillus salivarius</i> LS03	> 0,8 BLN *	> 0,02 BLN *

Fructooligosaccharides FOS	60 g	1,500 mg
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\* The use of microencapsulated probiotic microorganisms requires the application of a special method of analysis to determine the number of live cells. Full details of this method can be obtained from Probiotical S.p.A.

## Directions

The recommended dose is 1 sachet a day, preferably half an hour before meals for at least 30 days.

To dissolve the product completely, first place the content of the sachet in a glass, then half fill it with water or milk at room temperature. Stir well and drink immediately.

## Storage

Keep in a dry place, at temperatures of no more than 25°C and keep out of direct light.

**A sachet of Proflora guarantees an intake of no fewer than 2 billion live probiotic cells.** The probiotic bacteria content is guaranteed up to the expiration date indicated on the label, provided the product is stored in its original packaging at temperatures of no more than 25°C.

## Warnings

Do not exceed the recommended daily dose. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle. Keep out of reach of children under 3 years of age.



Pack containing  
10 x 2.5 g sachets  
Net weight 25 g

30 x 2.5 g sachets  
Net weight 75 g

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## Profos™

### What is Profos?

The synergistic formulation of Profos was developed to provide complete, balanced supplementation of nutrients, minerals and plants needed to promote the recovery of **joint function**, and **bone strength and plasticity** and to maintain the **skin's moisture, elasticity and firmness**.

### The selected ingredients of Profos

**Sodio ialuronato (ExceptionHYAL®)**: high purity hyaluronic acid salt of biotechnological origin, present in Profos at an optimum concentration for a deep natural protective action over the connective tissues. Hyaluronic acid is a substance that is naturally present in the body, however its organic concentration tends to decline with age, causing progressive thinning and loss of elasticity, tone, resistance and function of the joints, bone and skin. Supplementation with ExceptionHYAL® is specifically recommended for its high gastrointestinal absorption and high bio-availability.

**ExceptionHYAL®** is actively absorbed and distributed to the tissues where it promotes the synthesis of hyaluronic acid, which exerts various beneficial effects: it helps to restore the viscous properties of synovial fluid and to counteract joint inflammatory processes, it stimulates the vitality of cartilage cells, favours elasticity and skin moisture to prevent ageing processes.

**Vitamin A**: this vitamin is involved in a number of metabolic processes that are essential for the body; its properties make the balanced content of Profos ideal for the promotion of growth and regeneration of epithelial cells and consequently for the integrity of the skin.

**Magnesium**: an essential mineral for human nutrition involved in about three hundred biological reactions; Profos' balanced magnesium content promotes bone tissue regeneration and prevents osteoporosis.

**Silicon**: mineral present in Profos in a highly bio-available form; it is present in the body particularly in connective tissue, bone, tendons and skin. It is essential for physiological repair and regeneration processes.

**Short-chain fructo-oligosaccharides (FOSsc):** natural plant fiber with a prebiotic action, it promotes the absorption of a great many nutrients, including minerals such as magnesium and calcium, to the benefit of bone metabolism.

Selected **plant extracts** present in Profos:

**Rosehip** dry extract **standardized to Vitamin C 50%:** the fruits are one of the richest sources of Vitamin C and bioflavonoids, with important antioxidant properties for the prevention of skin ageing processes and stimulation of its natural repair processes. Vitamin C is essential for the metabolism of collagen fibers, helping to lend the dermis greater firmness and joint structures such as tendons and ligaments greater strength.

**Fennel, Witch hazel, Mallow and Griffonia:** the action of their plant extracts improves the general conditions of the intestinal mucosa, to facilitate the absorption of other Profos ingredients, thanks to their specific balanced proportions.

## The ADVANTAGES of Profos

- ExceptionHYAL®: high-dose (100mg/sachet) hyaluronic acid plant polymer, constituted by a selected blend of medium and high molecular weight hyaluronic acid, for the greatest bio-availability and activity: moisturising of the intestinal mucosa, absorption and distribution to the connective tissues
- Extremely high quality of ExceptionHYAL® hyaluronic acid
- Balanced blend of Magnesium and Silicon in bioavailable form
- Selected blend of carefully chosen plant ingredients and natural fibres (FOSsc)
- High tolerability profile
- Not contraindicated during pregnancy
- Free of lactose, fats and ingredients obtained from genetically-modified organisms (GMO-free)

## Composition

Fructo-oligosaccharides, maltodextrins, thickening agent: gum arabic, xanthan gum; magnesium oxide, fennel (*Foeniculum vulgare* Mill.) seeds dry extract standardized to 1% essential oil, witch hazel (*Hamamelis virginiana* L.) leaves dry extract standardized to 10% tannins, mallow (*Malva sylvestris* L.) flowers and leaves dry extract, flavouring, rosehip (*Rosa canina* L.) fruit dry extract standardized to 50 % vitamin C, sodium hyaluronate, anticaking agents: stearic acid of plant origin, silicon dioxide; griffonia (*Griffonia simplicifolia* Baill.) seeds dry extract standardized to 99% 5-hydroxytryptophan, emulsifier: sucrose esters of fatty acids; sweetener: sucralose; retinyl palmitate (vitamin A).

## Nutritional information

	<b>1 sachet</b>	<b>% NRV</b>
Energy	18.4 kcal 78.1 kJ	
Protein (N x 6.25)	0 g	
Carbohydrate	4.3 g	
Total fat	0.1 g	
Vitamin A	480 mcg	60
Magnesium	150 mg	40
Silicon	16 mg	
Fructooligosaccharides	2500 mg	
Sodium hyaluronate	100 mg	
<b>Herbal ingredients</b>		
Fennel dry extract	200 mg	
Witch hazel dry extract	200 mg	
Mallow dry extract	200 mg	
Rosehip dry extract	96 mg	
Griffonia dry extract	40 mg	

## Fields of application and posology

- **Musculoskeletal system:** promotes joint and bone function. Take 1 to 2 sachets a day depending on symptoms; for best results use for at least 2 months.

- **Integumentary system:** promotes the tone of the skin's connective structures (dermis).

Take 2 sachets a day in situations requiring promotion of dermal metabolism (for example after cosmetic procedures) for 15 days; for best results, continue taking one sachet a day for at least 2 months.

## Directions

Take 1 – 2 sachets a day; pour the content of one sachet into a glass with a very small amount of water and stir immediately until completely dispersed, then add another 100 – 150 ml of water and stir to obtain even dispersion.

Incomplete dispersion in the water does not indicate an alteration of the product and is due to the presence of sodium hyaluronate.

For best results, take Profos one hour before meals.

## Warnings

Store away from direct light, in a cool, dry place. The expiration date refers to the product stored correctly in its original packaging. Do not exceed the recommended daily dose. Keep out of the reach of children under the age of 3 years. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle.



**Packs containing  
10 x 5.1g sachets  
Net weight 51 g**

**30 x 5.1 sachets  
Net weight 153 g**

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## Tonicoguna

### What is Tonicoguna?

The combination of Polynesian and European phytotherapeutic knowledge led to the creation of Tonicoguna, a supplement containing active ingredients of plant origin, formulated to support the body in situations of **weakness, asthenia, physical and mental exhaustion, convalescence, stress** and, more generally, all those conditions in which **drive and energy** are required.

### How does Tonicoguna act

Tonicoguna contains 5 synergistic and complementary active ingredients to boost the organism as a mind-body whole through gentle, balanced, stimulation of the entire Psycho-Neuro-Endocrino-Immunological axis.

Tonicoguna's key ingredient is the juice of *Morinda citrifolia* L. (**Noni**), which is present in the product in a high concentration.

The Noni juice used in Tonicoguna is of protected designation origin, originating from Tahiti and authorised pursuant to EC Regulation 258/97.

The efficacy of Noni has been demonstrated in a number of studies that have shown its juice to contain a high concentration of the precursor of the alkaloid Xeronine, which exerts a potent catalysing action on protein synthesis, metabolism and cell mitosis and that is able to activate endocrine function and the immune system, improve endorphin receptor capacity and, therefore, boasts powerful **anti-asthenic, anti-stress** and **anti-ageing activity**.

Noni's broad-spectrum stimulation action is further boosted by the individual actions of the other plant extracts, each one with specific organic tropism.

### The ADVANTAGES of Tonicoguna

- Gluten, lactose and glucose-free
- Noni juice from Tahiti, with protected designation of origin

Plant extract	Main organic tropism	Action
Noni ( <i>Morinda citrifolia</i> L.)	Cell	Anti-asthenic, anti-stress, anti-ageing due to cell metabolism stimulation
<i>Eleutherococcus senticosus</i> Maxim.	Adrenal glands	Anti-stress, anti-hypnotic, anti-fatigue; general mood stimulation; increased mental efficacy
<i>Ginkgo biloba</i> L.	Cell membranes, microcirculation and adrenal glands	Anti-oxidant, anti-ageing, adrenergic activity; increased mental efficacy
Ginseng ( <i>Panax ginseng</i> Meyer)	Anterior pituitary	Hormonal rebalance, adrenal stimulation, increased mental efficacy
<i>Ribes nigrum</i> L.	Adrenal glands and Immune system	Anti-asthenia, immunomodulating
<i>Hypericum perforatum</i> L.	Central nervous system	Anti-depressant
<i>Gentiana lutea</i> L.	Digestive tract	Stimulation of the appetite due to a reflex action on the taste buds with an increase in gastric and salivary secretions
<i>Rosmarinus officinalis</i> L.	Digestive tract, adrenal glands e Sistema Nervoso and central nervous system	Nerve stimulation, improved memory and cognitive function, anti-ageing activity
<i>Melissa officinalis</i> L.	Central nervous system	Anti-depressant



## Composition

Water, Noni (*Morinda citrifolia* L.) juice, fructose, Siberian ginseng (*Eleutherococcus senticosus* Maxim.) root fluid extract, Blackcurrant (*Ribes nigrum* L.) buds glycerine macerate, Rosemary (*Rosmarinus officinalis* L.) young shoots glycerine macerate, Great yellow gentian (*Gentiana lutea* L.) root fluid extract, Ginkgo biloba (*Ginkgo biloba* L.) leaf fluid extract., Ginseng (*Panax ginseng* CA Meyer) root fluid extract, St. John's wort (*Hypericum perforatum* L.) herb and flowers fluid extract, Lemon balm (*Melissa officinalis* L.) leaf fluid extract, orange juice, thickening agent: hydroxypropyl methylcellulose. Natural orange flavor. Preservatives: sodium benzoate, potassium sorbate.

## Nutritional information

	20 ml
Energy	9.48 kcal 40.29 kj
Total fat	0 g
Carbohydrate	2.355 g
Protein	0 g
Noni	7.00 ml
Siberian ginseng	1.00 ml
Rosemary	0.67 ml
Blackcurrant	0.67 ml
Great yellow gentian	0.27 ml
Ginkgo biloba	0.27 ml
Ginseng	0.27 ml
St. John's wort	0.13 ml
of which Hypericin standardized to 0.002%	2,6 mcg
Lemon balm	0.13 ml

## Fields of application

Debilitation syndrome, asthenia, chronic fatigue, physical and mental exhaustion, convalescence, stress, loss of appetite, mental overexertion (studying, work commitments, etc.).

The daily dose contains 2.6 mcg of Hypericin.

## Directions

The recommended dose is 20 ml a day, taken as a single administration (preferably in the morning) or as 2 separate administrations, using the measuring cap.

It can be taken as is or diluted in water.

## Warnings

Do not exceed the recommended daily dose. Keep out of the reach of young children. Tonicoguna contains *Ginkgo biloba*: consult your doctor before taking the product in case of concomitant therapy with anticoagulant drugs or antiplatelet drugs. The use of the product is not recommended during pregnancy and breastfeeding. In case of concomitant drug therapy seek the advice of your doctor before using this product because hypericum extract may interfere with the metabolism of these drugs by inhibiting their activity. St. John's wort extract is contraindicated in children and teen-agers.

Store product in a cool, dry place and protect from direct light. The expiration date refers to a product correctly stored in its original and undamaged packaging. Food supplements should not be used as a substitute for a varied diet and a healthy lifestyle.



**150 ml bottle with  
measuring cup**

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## Vit Formula

### What is Vit Formula?

Vit Formula is a complete dietary supplement containing vitamins, minerals and trace elements to satisfy the body's requirements.

### Why Vit Formula is unique

The orosoluble formula makes the product easy to take under all circumstances (when travelling, at work or at school) and rapidly absorbed.

Vit Formula is ideal in terms of **completeness**: it contains all the vitamins, minerals and trace elements that are essential for the body, as well as a number of amino acids.

Vit Formula is ideal in terms of **quality**: it contains good quality vitamins, minerals and trace elements.

Vit Formula is ideal in terms of **formulation**: its composition is specially balanced to meet the body's needs.

**Vit Formula is the ideal complement to Gunamino Formula for guaranteeing optimum protein synthesis.**

### Composition

Sweeteners: (corn) sorbitol; choline bitartrate, calcium carbonate, inositol, magnesium oxide, anticaking agent: talc; sucrose, flavourings, L-methionine, L-ascorbic acid (vitamin C), acidity regulator: citric acid; zinc citrate, maltodextrin, ferrous fumarate, nicotinamide (vitamin PP), manganese carbonate, DL-alpha-tocopherol acetate (vitamin E), calcium D-pantothenate (pantothenic acid), retinyl acetate (vitamin A), sweetener: sucralose; copper citrate, riboflavin (vitamin B2), cholecalciferol (vitamin D3), pyridoxin hydrochloride (vitamin B6), phylloquinone (vitamin K1), thiamine mononitrate (vitamin B1), cyanocobalamin (vitamin B12), sodium fluoride, potassium iodide, sodium selenite, pteroyl-monoglutamic acid (folate), D-biotin (vitamin H).

## Nutritional information

	<b>1 sachet</b>	<b>% NRV</b>
Energy	4.2 kcal	
	17.5 kj	
Protein (N X 6.25)	0.18 g	
Carbohydrate	1.10 g	
of which sugar alcohols	0.91 g	
Total fat	0 g	
Methionine	60 mg	
Vitamin C	50 mg	63
Vitamin PP	4 mg	25
Pantothenic acid	2.1 mg	35
Vitamin E	1.8 mg	15
Vitamin B2	0.38 mg	27
Vitamin A	250 mcg	31
Vitamin B6	0.23 mg	16
Vitamin B1	0.165 mg	15
Folic acid	55 mcg	28
Vitamin K	35 mcg	47
Biotin	21 mcg	42
Vitamin D	2.5 mcg	50
Vitamin B12	0.375 mcg	15
Calcium	150 mg	19
Magnesium	75 mg	20
Zinc	12.5 mg	125
Iron	4 mg	29
Manganese	2 mg	100
Copper	0.5 mg	50
Fluorine	0.525 mg	
Iodine	64 mcg	43
Selenium	33 mcg	60
Choline	150 mg	
Inositol	130 mg	

## Fields of application

Primary and secondary vitamin deficiencies. Support to and supplementation of Gunamino Formula.

## Directions

The recommended dose is 1 sachet of orodispersible granules a day; dissolve the contents of the sachet directly in the mouth, without water.

When used in combination with Gunamino Formula (essential amino acid supplement): 1 sachet of orodispersible granules every 10 grams of Gunamino Formula.

## Warnings

Store away from direct light, in a cool, dry place. Keep out of the reach of children under the age of 3 years. Do not exceed the recommended daily dose. The product contains sugar alcohols: excessive use may have laxative effects. Supplements should not be considered substitutes for a varied, balanced diet and healthy lifestyle.



**Pack containing  
32 x 2.5 g sachets  
of orodispersible  
granules  
Net weight 80 g**

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## Pre-clinical and clinical research on Physiological Nutraceuticals Guna dietary supplements

The claims made concerning Physiological Nutraceuticals Guna supplements in the Italian and international nutraceutical field are based upon scientific research.

Molecular Biology studies on herbal substances and biochemical studies on nutrients led to the discovery of the organoleptic and nutritional activities of the active ingredients of Guna products.

At the same time, in recent years, there has been an increasingly pressing need to support the results obtained in ambulatory setting using Physiological Nutraceuticals dietary supplements with statistical data.

Now, more than ever before, we need **scientific evidence**, and repeatable and verifiable data to support the efficacy also of dietary supplements.

Guna decided to accept this cultural challenge by organising a series of pre-clinical and clinical studies conducted according to stringent experimental standards, which yielded the results presented on the following pages.



## The effects of **Colostro Noni** on epithelial cell turnover, inflammatory states and the integrity of the tight junctions of the intestinal mucosa intestinale.

Diego Cardani<sup>1</sup>

### Abstract

In this work we evaluated the possibility for dietary supplement **Colostrononi** to be used as a preventive and therapeutic agent in various diseases characterized by altered intestinal homeostasis with changes in the composition of the microbiota, alteration of the morphology and functionality and also inflammation of the epithelium.

Cellular activity of **Colostrononi** has been tested in an *in vitro* model of intestinal epithelium based on Caco-2 cell line. We tested the ability of **Colostrononi** to stimulate cellular turnover evaluating cells growth rate with WST-1 proliferation assay. We also tested the ability of **Colostrononi** to increase the gene expression of Interleukin -8 (IL -8 ) with a Real Time PCR assay. IL-8 is a fundamental chemotactic factor involved in inflammatory phenomena and in the control of tissue homeostasis.

**Colostrononi** is able to stimulate cell turnover in the proposed *in vitro* model and demonstrates active in increasing the gene expression of IL-8. Both aspects observed are fundamental for the establishment of mechanisms to repair tissue damage.

Obtained results indicate that **Colostrononi** could find clinical application in treatment of gastrointestinal disorders characterized by impairment of proper intestinal permeability, in IBDs (Inflammatory Bowel Diseases), in dysenteric diseases, in gastritis and in forms of pathological alteration of the mucous layer as celiac disease and gluten sensitivity..

**Key words:** Gastrointestinal tract; Mucosa; Inflammation; Tight junction; Bovine colostrum; *Morinda citrifolia*.

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Cell proliferation % test

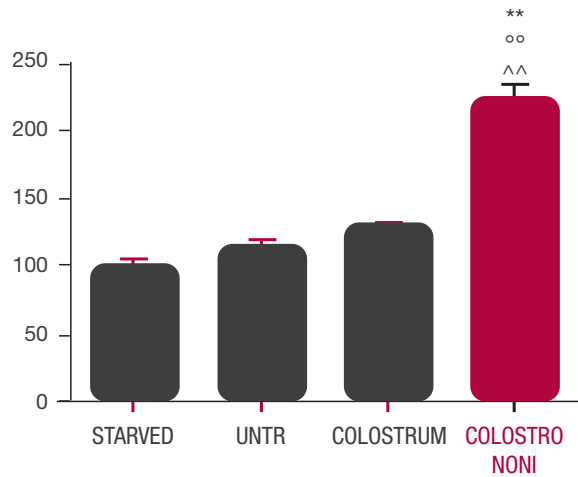


Fig. 1

Analysis of the cell growth rate in the various experimental conditions. Colostrononi's ability to stimulate cell turnover on Caco-2 cell cultures, a mechanism that is fundamental for epithelial damage repair, is clearly evident.

IL-8 expression (mRNA)

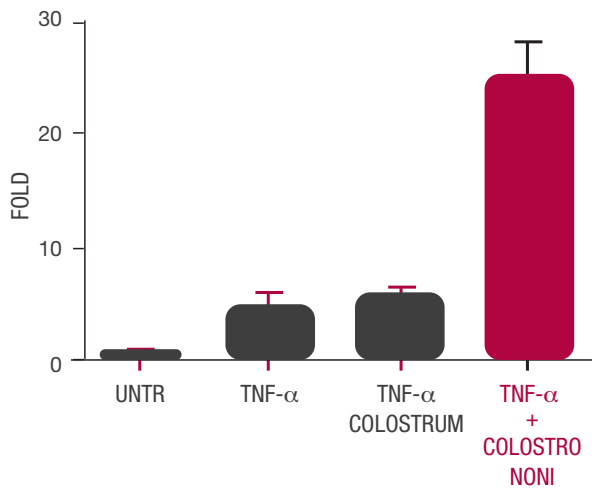
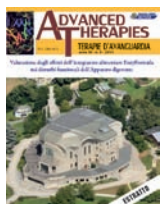


Fig. 2

Graph showing IL-8 gene expression with the different treatments used. The use of Colostrononi increases the expression of IL-8 by maintaining levels (approximately 25-fold) well below those observed in cases of pathological inflammatory response (an approximately 300/600-fold increase) but high enough to maintain physiological immune response.





## Evaluation of the effects of the dietary supplement **Enzyformula** in functional digestive system disorders.

Chiara Biondani<sup>1</sup>, Luigi Coppola<sup>2</sup>, Maurizio Corbellini<sup>3</sup>, Maria Paola Gallinari<sup>4</sup>,  
Barbara Paolini<sup>5</sup>, Chiara Rosso<sup>6</sup>, Massimiliano Scala<sup>7</sup>, Antonino Tartamella<sup>8</sup>, Marco Temporin<sup>9</sup>

### Abstract

Digestion is a multifactorial process involving several organs and systems that exert mechanical (stomach and intestine), biochemical (liver and pancreas) and nervous control (Central Nervous System-CNS) under the homeostatic control system of Psycho-Neuro-Endocrine-Immune axis (P.N.E.I.).

About 20% of Italian citizens are affected by diseases of the digestive system caused by unbalanced diet, unhealthy lifestyles, chronic intake of drugs and aging. In these situations dysfunctions occur in the secretion of digestive enzymes responsible for processing of food and absorption of nutrients, with negative repercussions on liver and pancreas functionality.

The clinical observational study EnzyOBSERV is focused on enzymatic dysfunction related to dyspepsia and malabsorption syndromes, with the aim of evaluating the efficacy of their treatment with the dietary supplement **Enzyformula**.

The study was conducted on 100 subjects aged over 18 years enrolled in accordance with defined inclusion/exclusion criteria and treated with orally administered dietary supplement **Enzyformula** at a dose of 2 tablets/day for a period of three months and followed up with evaluation of symptomatic parameters and safety monitoring adverse events.

Collected data show that dietary integration with **Enzyformula** ensures the correct amount of enzymes and vegetable extracts active in the control of digestive function with reduction of symptoms linked with dyspepsia caused by reduced enzyme secretion and insufficient digestion of complex foods.

**Key words:** P.N.E.I.; digestive enzymes; digestive physiology; digestive disorders; functional dyspepsia; malabsorption syndromes.

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<sup>4</sup> Physician, Latina

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Sciences, Siena

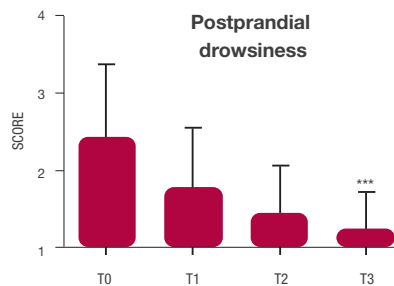
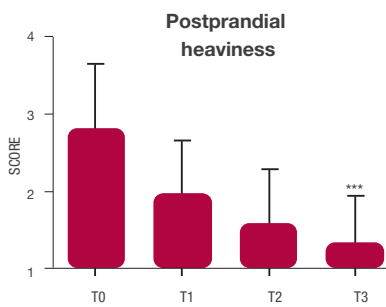
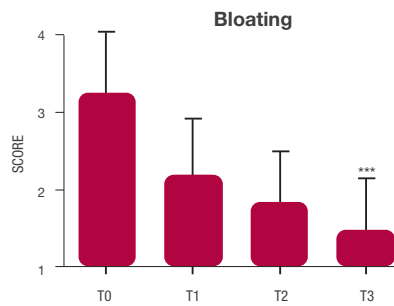
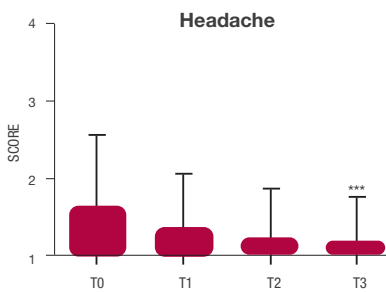
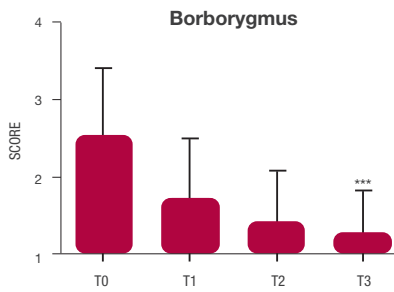
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Medicine, Cuneo

<sup>7</sup> Specialist in General  
Medicine, Torino

<sup>8</sup> Physician, Trapani

<sup>9</sup> Specialist in Hygiene and  
Preventative Medicine,  
Padova

Fig. 1



Graph showing the efficacy of treatment of functional dyspepsia with Enzyformula. Enzyformula's action is rapidly established and is enhanced and maintained with regular use of the product, with a significant improvement in symptoms.



## Overview of the pharmacological and nutraceutical treatment strategies for borderline dyslipidaemia.

Andrea Lozzi<sup>1</sup>

### Abstract

Cardiovascular system pathologies are responsible for 30-35 % of deaths in industrialized countries making cardiovascular pathology the leading cause of disease-induced death. Many risk factors and the presence of a chronic inflammatory state represent the substrate for the development of cardiovascular disease. Hypercholesterolemia is considered one of the most important risk factor and consequently a primary therapeutic target. Numerous therapeutic strategies, based mainly on the use of statins, have been developed for hypercholesterolemia management; unfortunately those established drug therapies may present low effectiveness and low compliance by the patients.

This overview presents the results of an cohort observational prospective clinical trial with active control which aims to evaluate the effectiveness of the experimental treatment with **Omega Formula™** compared to conventional treatment with Atorvastatin.

The study was conducted in Italy on 30 subjects aged over 18 years enrolled according to defined criteria, divided into two homogeneous groups and treated for 3 consecutive months with 10 mg/per day of Atorvastatin (control group) or 3 tablets/per day of **Omega Formula™** (experimental group) and followed up with evaluation of biophysical and haematic parameters. The study highlights the expected result of reduction of total cholesterol plasmatic levels in the group of subjects treated with **Omega Formula™** (-17.82 %) and the effectiveness of the treatment with **Omega Formula™** compared to treatment with Atorvastatin in reducing hyperlipidemia.

**Key words:** Cardiovascular risk factors; Low-grade chronic inflammation; Hypercholesterolemia; homocysteine; Atorvastatin; Red Yeast Rice; Vitamin B<sub>6</sub> and B<sub>9</sub>; Omega fatty acids.

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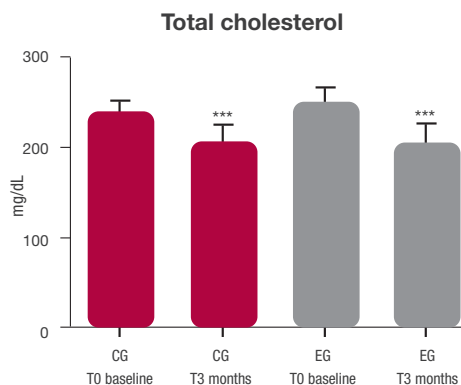


Fig. 1

Treatment with Omega Formula™ led to the achievement of the primary endpoint of the OMEGASTAT study. In the EG group (Omega Formula™) total cholesterolaemia dropped by an average of 17.82% with  $p < 0.0001$ . In the CG group (atorvastatin) total cholesterolaemia levels dropped by an average of 14.25% with similar statistical significance.

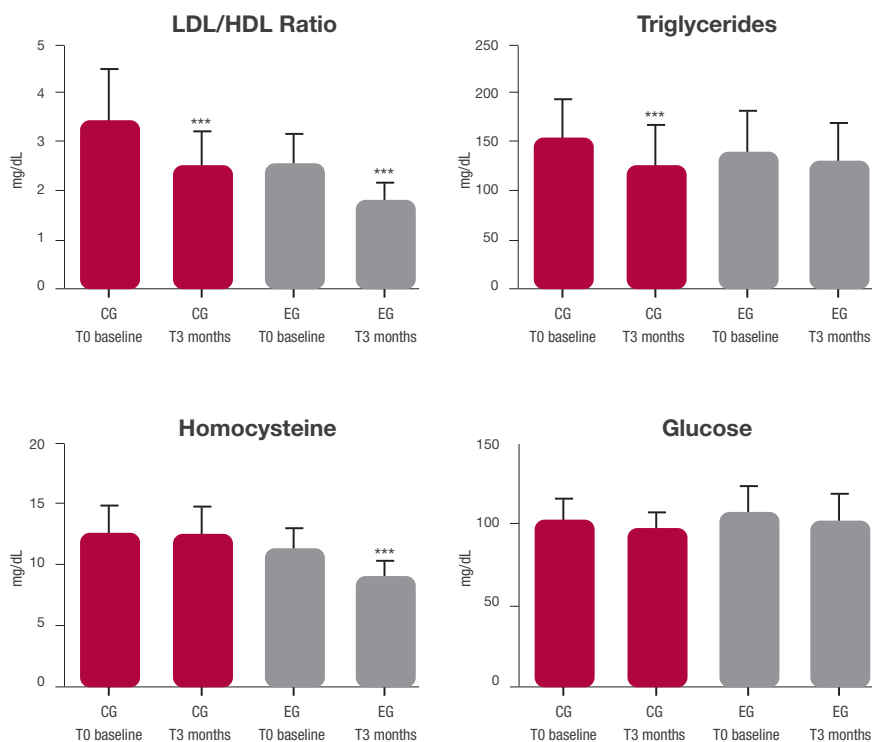
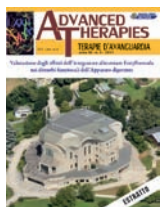


Fig. 2

The secondary endpoint dataset is similar for treatment with Atorvastatin and Omega Formula™. The LDL/HDL ratio (-28.41%) and circulating homocysteine (-20.17%) parameters show that Omega Formula™ is efficacious in modulating these values. Treatment with atorvastatin was seen to be advantageous in the management of blood triglyceride levels (-18.83%), whereas glycaemia does not appear to be influenced by both the treatments proposed.



## Desynchronisation of the HPA axis, stress and chronic fatigue syndrome.

### Multicentre observational study on the activity of **Tonico-guna** and **Vit Formula™** in promoting hypothalamus-pituitary-adrenal axis function.

Donatella Brazioli<sup>1</sup>, Rosa Maria Calderone<sup>2</sup>, Simona Chierici<sup>3</sup>, Giuseppe Chimentì<sup>4</sup>, Ferdinando Diodati<sup>5</sup>, Maurizio Lucarelli<sup>6</sup>, Vito Mannino<sup>7</sup>, Maria Letizia Primo<sup>8</sup>, Ornella Righi<sup>9</sup>, Paolo Spagnul<sup>10</sup>, Antonio Tartaglia<sup>11</sup>, Lucio Turco<sup>12</sup>

#### Abstract

Stress is defined as a biological-behavioral positive reaction linked with the preservation of life through the processes of natural selection. Under normal conditions, reaction to a stressor event leads to a time-limited physiological activation of the hypothalamus-pituitary-adrenocortical (HPA) axis, pivotal for adaptation of the organism to the mutation of environmental stimuli.

In presence of chronic stress HPA axis is hyper-activated and de-synchronized with the onset of Chronic Fatigue Syndromes and loss of psycho-neuroendocrine-immune homeostasis caused by the alteration of P.N.E.I. axis.

The clinical observational study TONICOBSERV is focused on the Chronic Fatigue Syndromes with de-synchronization of the HPA axis related to chronic stress and its objective is to evaluate the effectiveness of the experimental treatment of the syndrome with dietary supplements **Tonicoguna** and **VIT Formula™**.

The study was conducted on 70 subjects aged between 20 and 60 years enrolled in accordance with defined inclusion/exclusion criteria and treated with orally administered dietary supplements **Tonicoguna** and **VIT Formula™** at a dose of one sachet/day for each of the two products for a period of four weeks and followed up with evaluation of symptomatic parameters and safety through the monitoring of adverse events.

Collected data show that dietary integration with **Tonicoguna** and **VIT Formula™** ensures an optimal supply of vegetable substances, vitamins, minerals and other micronutrients active in the reduction of fatigue syndromes induced by chronic stress.

**Key words:** Chronic stress; Chronic Fatigue Syndrome; HPA axis de-synchronization; P.N.E.I. axis alteration, *Morinda Citrifolia*.

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<sup>4</sup> 4 Internal medicine and paediatric specialist, Palermo

<sup>5</sup> 5 Aeronautical and spatial medicine specialist, Rome

<sup>6</sup> 6 Endocrinology specialist, Perugia

<sup>7</sup> 7 Sports medicine specialist, Palermo

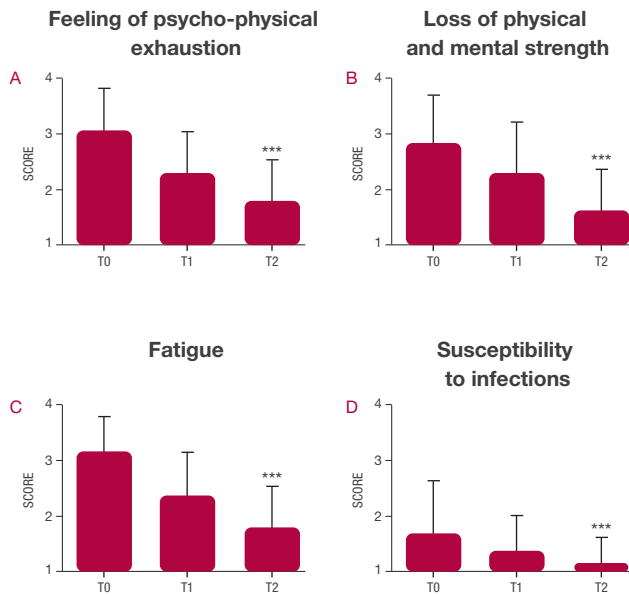
<sup>8</sup> 8 Physician and psychiatrist, Turin

<sup>9</sup> 9 Paediatrics specialist, Piacenza

<sup>10</sup> 10 Internal medicine specialist, Udine

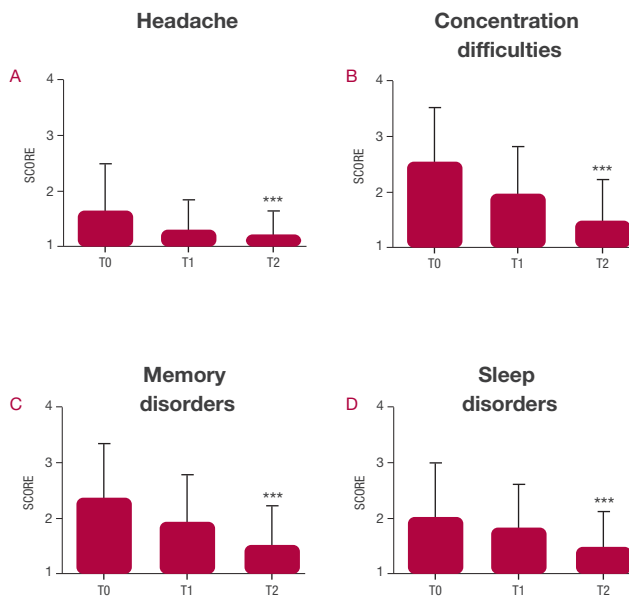
<sup>11</sup> 11 Physician and psychiatrist, Turin

<sup>12</sup> 12 Psychiatry specialist, Latina



**Fig. 1**

*Distribution graph of the scores for the parameters: feeling of psycho-physical exhaustion (A); loss of physical and mental strength (B); sense of fatigue (C) and susceptibility to infection (D). All parameters show a significant improvement following use of Tonico-guna and Vit Formula™ even at T1 (2 weeks after the start of treatment) and at T2 (4 weeks after the start of treatment)*



**Fig. 2**

*Distribution graph of the scores relating to the parameters headache (A); concentration difficulties (B); memory disorders (C) and sleeping disorders (D). All parameters show a significant improvement following use of Tonico-guna and Vit Formula™ even at T1 (2 weeks after the start of treatment) and at T2 (4 weeks after the start of treatment).*



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Rome

## Prophylaxis and natural treatment of parasitic intestinal worms

*Antonello Arrighi<sup>1</sup>, Alessandro Coradeschi<sup>2</sup>, Maria Colombo<sup>3</sup>, Lucilla Ricottini<sup>4</sup>*

### Abstract

Helminthes infections are intestinal diseases caused by parasites (helminthes) and represent an important mortality risk in many countries characterized by poor hygienic-sanitary conditions. The intestinal parasitic infections are also frequent in most developed countries and especially affect children with an incidence of 20%.

Parasitic infestations alter the homeostasis of the cerebral-intestinal axis and presents symptoms like insomnia, restlessness, abnormal appetite, malabsorption phenomena of nutrients and significant reduction of blood levels of some minerals. From an immunological point of view helminthiasis lead to increased host susceptibility against re-infestation and additional opportunistic infections.

The clinical observational study **Gunaelmint** is focused on helminthiasis related to infestation with pinworms and aims to evaluate the effectiveness of the experimental treatment of helminthiasis with the dietary supplement **Gunaelmint** and homeopathic medicine **Guna-Tanacetum**.

The study was conducted on 23 subjects enrolled and treated according to defined criteria with orally administered **Gunaelmint** and **Guna-Tanacetum** with symptomatic evaluation of parameters and safety through the monitoring of adverse events.

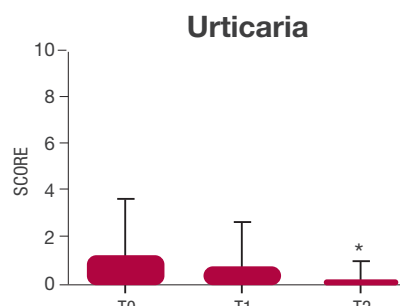
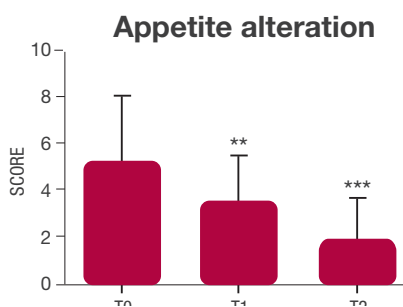
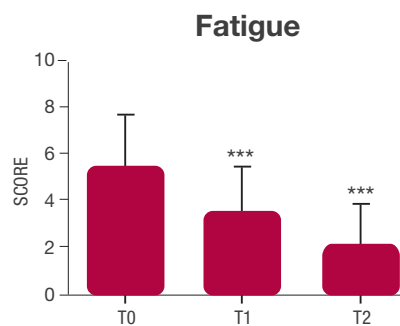
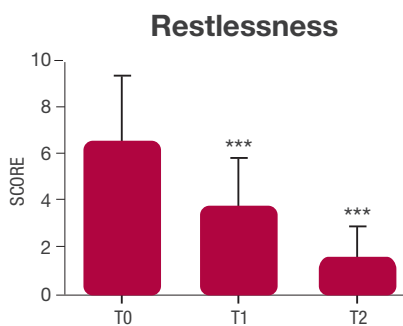
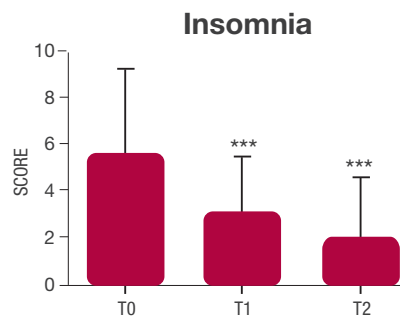
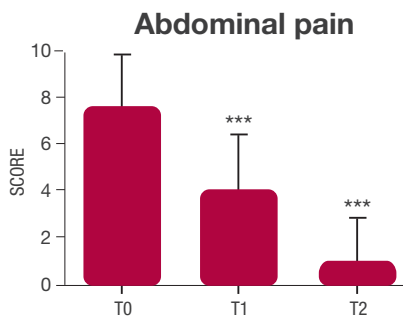
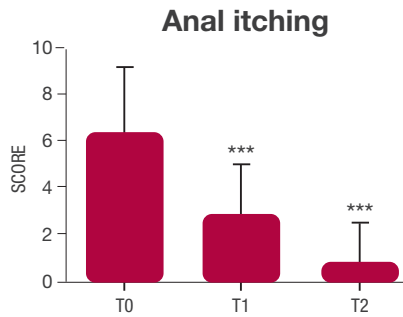
**Gunaelmint** was administered for 1 week at the dose of 3 sachets/day followed by two weeks of wash-out and by a further week of treatment.

**Guna-Tanacetum** was administered at a dose of 10 drops/3 times a day for 25 days (half-dose if under 6 years).

Collected data show that the use of the food supplement **Gunaelmint** associated with **Guna-Tanacetum** can be proposed as an effective therapeutic option for helminthiasis and as prophylactic therapy in conditions of increased risk of infestation by helminthes, especially in communities.

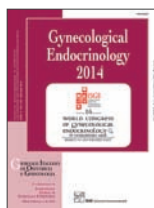
**Key words:** helminthes; intestinal parasites; Immunitary System; gut-brain axis.

Fig. 1



Graph showing the distribution of the scores for anal itching, abdominal pain, insomnia, restlessness, irritability, fatigue, appetite alteration, urticaria. All the parameters showed a significant improvement following use of Gunaelmint and Guna-Tanacetum.





## Efficacy and tolerability of **Ferroguna** versus iron sulphate in the treatment of iron-deficiency in pregnancy: controlled non-inferiority study

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R. Roncuzzi<sup>7</sup>, L. Miliffi<sup>8</sup>, R. Chionna<sup>9</sup>, T. Benedetti<sup>10</sup>, R. Pasin<sup>11</sup>, R. Garbelli<sup>12</sup>

### Abstract

A condition of more or less pronounced anemia is very frequent in pregnancy (up to 20-30% in some cases). An oral supplementation with iron salts can be considered a real therapy, although side effects that occur in the gastro-intestinal tract always reduce the compliance of these salts. Iron sulfate is often used in iron therapy thanks to its low cost and good bioavailability. However, an oral supplementation of this salt often induces nausea, vomiting, epigastric heaviness and poor gastro-intestinal tolerability depending on the concentration of ionized iron in the upper gastro-intestinal tract.

This multicentric, open, randomized, controlled, parallel-group trial has been conducted to demonstrate a non-inferiority and a higher tolerability of **Ferroguna** compared to iron sulfate in pregnant women after week 12 who needed iron supplementation.

This trial was conducted in Italy on 49 patients aged over 18 years enrolled according to well-defined criteria, treated for 12 consecutive weeks with 525 mg/day of iron sulfate heptahydrate (Ferrograd®) or with 2 sachets/day of **Ferroguna**. The hematochemical and biophysical parameters were assessed on a monthly basis.

After treatment, the increase in hemoglobin that occurred in both groups was clinically significant (>0.5 g / dl) compared to screening. Therefore, this clinical trial showed the non-inferiority, higher tolerability and ease of administration of **Ferroguna** compared to Ferrograd® in the treatment of iron deficiency during pregnancy.

**Key words:** Anemia - Pregnancy - Iron deficiency - Iron sulfate.

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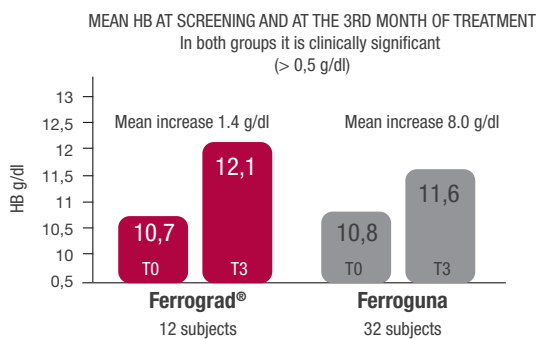


Fig. 1

Evaluation of haemoglobin (Hb) levels during the investigation period. The graph shows the mean Hb values in the two trial groups at the start of the study (T0) and after three months of treatment (T3). A clinically significant (>0.5 g/dl) **increase in Hb** was observed in both the group treated with Ferrograd® and that treated with Ferroguna.

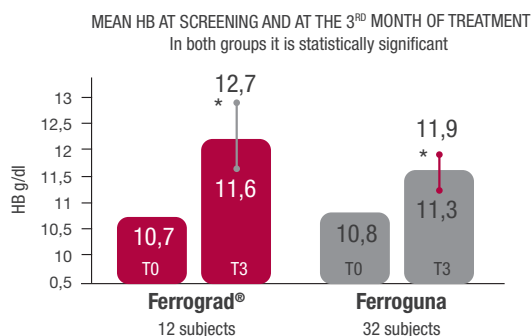


Fig. 2

Evaluation of haemoglobin (Hb) levels during the investigation period. The graph shows the mean Hb values in the two trial groups at the start of the study (T0) and after three months of treatment (T3). A statistically significant (p-value <00.5) **increase in Hb** was observed in both the group treated with Ferrograd® and that treated with Ferroguna.

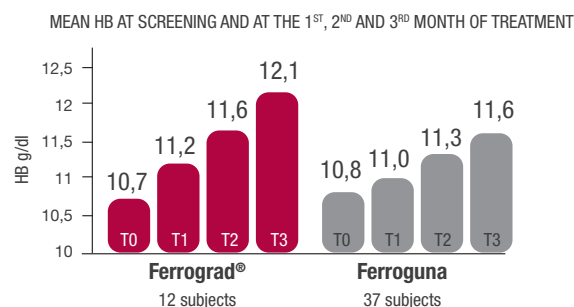


Fig. 3

The graph shows the mean haemoglobin (Hb) values observed in the two trial groups in all phases of the clinical study.

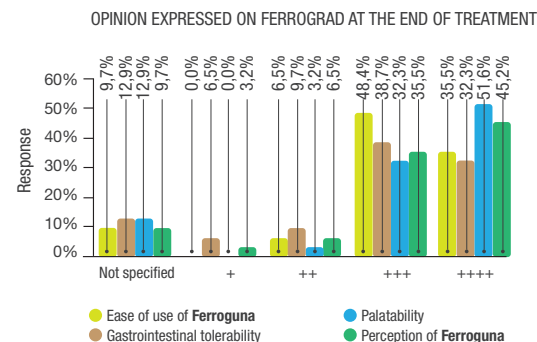


Fig. 4

Opinion expressed by the subjects treated with Ferroguna concerning the product's tolerability. As shown in the graph, subjects expressed a positive opinion on the ease of use, gastrointestinal tolerability, palatability and overall perception on the product, attributing a high score, on a 1 to 4 scale (+/++++).



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## GUNA AND PHYSIOLOGICAL NUTRACEUTICAL DIETARY SUPPLEMENTS

Guna produces a wide range of dietary supplements based on the Physiological Nutraceuticals method, which boasts a number of unique characteristics.

The **quality** of the raw materials and innovative production processes form the bases for all Guna products.

**Research:** is the secret to the success of Guna in the nutraceuticals international field. Molecular Biology studies on herbal substances and Biochemistry studies performed on nutrients have allowed Guna to identify the organoleptic and nutritional characteristics of the active ingredients contained in Guna products.

Basic **research** and clinical **trials:** are the feather in Guna's cap. Some of the world's most prestigious scientific journals have published papers demonstrating the efficacy of Guna products.

**Efficacy:** has led to the success of Guna's dietary supplements. The careful selection and combination of the ingredients according to principles of synergy and complementarity of action give these products an efficacy rate far higher than that of products with similar indications.

**Safety:** the absence of side effects has been proven in stringent laboratory tests and the clinical experience developed in over 15 years. Many Guna supplements are gluten-free, allergen-free and lactose-free. They are all GMO-free.

This volume, result of over 15 years' research and scientific studies, identifies the ideal nutraceutical solutions for restoring and maintaining an optimum state of health according to **Physiological Nutraceuticals**.

This innovative concept is based on the principle that, together with a correct lifestyle and diet, nutrients and dietary supplements are the elective “treatment” tools to prevent the triggering of pathological conditions, to promote physiological balance and to counteract ageing processes.

The combination of the 6 pillars of Physiological Nutraceuticals has led to the development of many efficacious dietary supplements that now make possible a modern approach to health based on nutraceutical intervention that:

- by acting primarily on the digestive system, create a context that is beneficial to the whole organism;
- by controlling intestinal inflammatory processes control low-grade chronic systemic inflammation, the “mother” of all disease;
- by maintaining the integrity of the mucosa, maintain the PNEI balance of the digestive system and, with it, that of the whole body.

Lastly, in addition to a number of suggestions on correct lifestyle, a simple procedure is illustrated for the primary prevention of intestinal functional disorders: the rule of the 3Rs (Rebalance, Repair and Replace).

The publication addresses all those doctors, researchers and healthcare professionals who seek rational answers that are consistent with this new and fascinating nutrition science paradigm.