METABOLIC LINE

ENGAGE METABOLIC SYNDROME

With **Olivcomplex**® containing Olive, D-chiro-Inositol and Coenzyme Q10 useful to favor:

- carbohydrates metabolism;
- lipids metabolism;
- blood pressure regularity.

Quality, Efficacy, Guarantee.

Think Green. **Live** Green. **Be** Green.

ERBA VITA Dr. G. Carlo Bollini

What is Metabolic Syndrome

The **Metabolic Syndrome** (also called X syndrome, insulin resistance syndrome or Reaven Syndrome) is linked to a combination of biochemical changes in our metabolism, which result in an increase of triglycerides in the blood and glycemia, a HDL cholesterol - the so called "good" cholesterol reduction (compared to LDL cholesterol - the so called "bad" cholesterol increase) and a greater presence of abdominal fat (also known as visceral fat, which is a localized accumulation of fat in the abdominal area).
These metabolic changes, which represent the so called Metabolic Syndrome risk factors, can lead to an increased cardiovascular risk.

How to identify Metabolic Syndrome

According to the **"National Cholesterol Education Program Guidelines (NCEP) Adult Treatment Panel (ATP) III",** to actually suffer from Metabolic Syndrome, the risk factors to be considered are the following:

RISK FACTORS	MAN	WOMAN
ABDOMINAL OR VISCERAL OBESITY	Waist circumference > 102 cm	Waist circumference > 88 cm
ARTERIAL HYPERTENSION	Systolic blood pressure ≥ 130 mmHg Diastolic ≥ 85 mmHg;	Systolic blood pressure ≥ 130 mmHg Diastolic ≥ 85 mmHg;
HDL CHOLESTEROL	< 40 mg/dl	< 50 mg/dl
TRIGLYCERIDES	> 150 mg/dl	> 150 mg/dl
GLYCEMIA	> 110 mg/dl	> 110 mg/dl

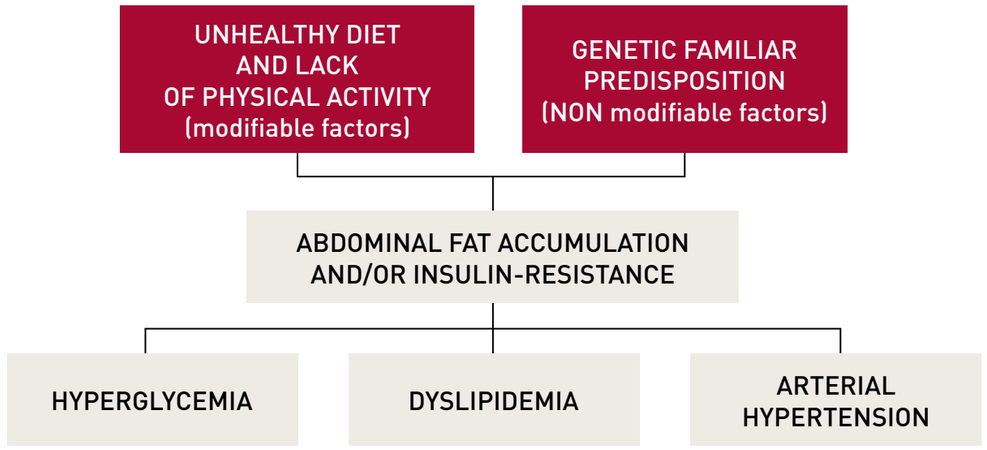
To detect the presence of the Metabolic Syndrome it is required the coexistence of **at least 3 altered risk factors.**
The Metabolic Syndrome increases the cardiovascular risk (especially coronary), in proportion to the number of risk factors presented.

The Metabolic Syndrome spreading

The Metabolic Syndrome spreading in the Western world is very high.
It is estimated that it affects a large proportion of the adult population in industrialized countries. According insights and *NCEP - ATPIII criteria, the Metabolic Syndrome affect **24-25%** of **men** and **18-27%** of **women.**

**Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III).*

The Metabolic Syndrome origins



Today, the scientific community believes that Metabolic Syndrome's progressive development is determined by genetic factors, that is, constitutive to each individual, but also by environmental factors, and therefore modifiables, such as physical inactivity, excessive and unbalanced diet.

Scientific-technical focus

Metabolic Syndrome, inflammation, excess nutrition, caloric restriction and physical activity, nutritional supplements

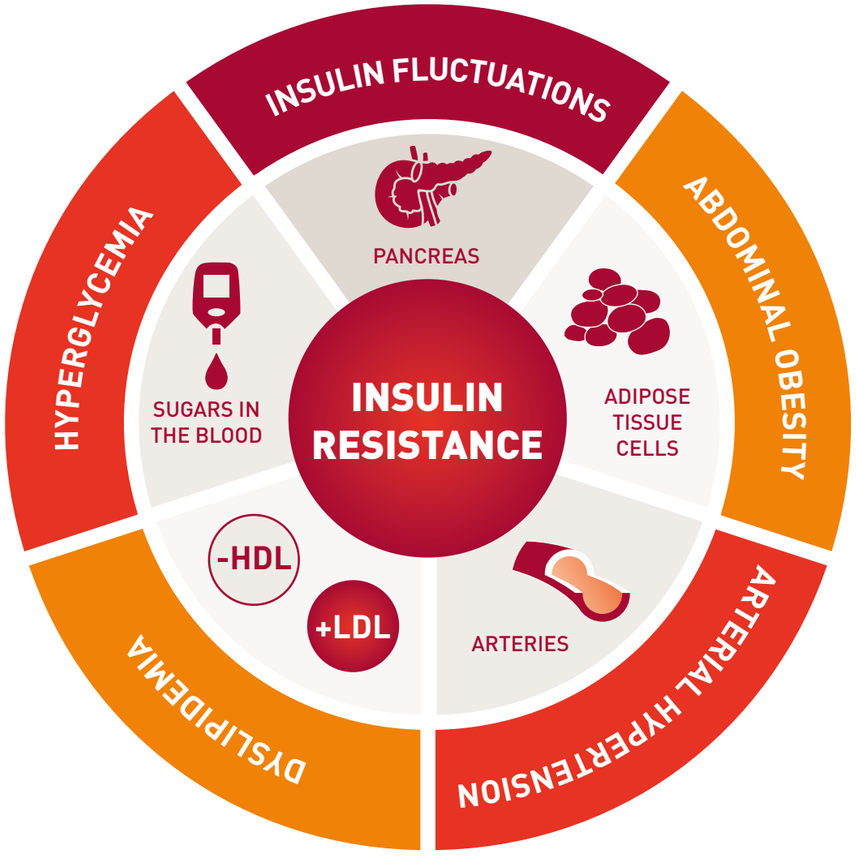
Scientific community has noted that a relationship between insulin-resistance and an increasing visceral adipose is born from some endocrine and metabolic functions typical of adipocytes: different substances produced by the adipose tissue, specified as "adipokines" (particularly: TNF- α, IL- 6, Leptin and adiponectin) have an important role in the modulation of insulin signaling and in the transmission of pro-inflammatory signals. **It is now clear that obesity is associated with a state of chronic and continuous visceral inflammation, at a low-level. Chronic inflammation derived from obesity leads to increasing lipids levels in the plasma, and consequently, the development of insulin-resistance.**

The excessive nutritional intake explains the origin of inflammation in the Metabolic Syndrome associated with obesity.
The most consistent way to tackle Metabolic Syndrome is to reduce the inflammation level through: caloric restriction (appropriated food intake reduction) and physical activity (which causes a reduction in the inflammatory levels such as C-reactive protein concentration). Both the reduction in the macronutrients contribution and the physical activity could determine a general inflammation reduction. These actions must be supported by a quality integrated nutritional treatment.

Metabolic Syndrome's risk factors description

INSULIN-RESISTANCE AND HYPERGLYCEMIA

Insulin resistance occurs when cells become less sensitive to the insulin action (hormone secreted by pancreas' β cells to facilitate glucose absorption). Glucose, when cannot be fully incorporated into the cells, keeps circulating and triggers a physiological need of additional insulin. The production of an extra amount of insulin weakens the pancreas' β cells. When pancreas is no longer able of secreting an appropriate amount of insulin can become hyperglycemic and subsequently even incur in a Type 2 diabetes.



The diagram shows all the players (organs, tissues and cells) involved in the insulin resistance phenomenon, which plays a central role in determining all Metabolic Syndrome's risk factors.

ABDOMINAL OBESITY

The importance of obesity when diagnosing Metabolic Syndrome comes from a simple clinical observation. In fact, various Metabolic Syndrome components are rarely associated with one another in non-obese individuals only, while they normally are associated in obese individuals, especially those who have fat localized around the abdominal area.

DYSLIPIDEMIA

High triglycerides levels in the blood, low HDL cholesterol levels, and borderline/high LDL cholesterol characterize the hematic lipid alteration, often associated with the Metabolic Syndrome. The European Heart Journal has recently published the European Society of Cardiology (ESC) and the European Atherosclerosis Society (EAS) guidelines on dyslipidemia. The real novelty of these guidelines is a first time recommendation, to include in the risk calculation, the HDL cholesterol values, so far not considered in the algorithms of risk maps.

BLOOD PRESSURE

Blood pressure may determine cardiovascular risk, even in people with Metabolic Syndrome. A diastolic pressure rise, especially in individuals under fifty years old, is a predictor of coronary risk: every 10 mmHg rise increases the risk by about 40%.

Cardiovascular risk is affected by arterial hypertension and other additional risk factors recognized by international guidelines: age, cigarettes smoke, hypercholesterolemia, diagnosed diabetes or impaired glucose tolerance and abdominal circumference.

An expanded Metabolic Syndrome definition from 1998 until today.

There are several criteria for a Metabolic Syndrome definition that have been proposed over the years:

1. The WHO (World Health Organization) operational definition in 1998.
2. The NCEP -ATP III (National Cholesterol Education Program - Adult Treatment Panel 1) operational definition in 2001.
3. The EGIR (European Group for the Study of Insulin Resistance) definition in1999.
4. The American Association of Clinical Endocrinologists definition in 2003.

The two most applied definitions for a diagnosis are those proposed by the National Cholesterol Education Program Adult Treatment Panel III (ATP III) and by the World Health Organization (WHO). While presenting significant similarities, the criteria are not excluding: up to date, the main debate concerns the inclusion of the type 2 diabetes as a Metabolic Syndrome component (denied by the EGIR and AACE criteria), as well as an equally shared insulin resistance definition.

Metabolic Syndrome Treatment: **Olivcomplex®** Multi-compound from Erba Vita laboratories

An early Metabolic Syndrome treatment allows individuals at risk to take appropriate preventive strategies and it is primarily targeted at reducing body weight and the improvement of individual risk factors, and may be expected to intervene on nutrition and physical activity.

Olivcomplex®

- Olive leaf extract
- D-chiro-inositol
- Coenzyme Q10

Erba Vita's **Olivcomplex®**

Olivcomplex® multi-compound formulated by Erba Vita, offers an integrated, functional, and complete advice and **guarantees each product performance optimization.** The unique combination of dry extract of olive leaves (15% oleuropein), with D-chiro-inositol and Coenzyme Q10 helps reducing several Metabolic Syndrome risk factors through a physiological approach. **Olivcomplex® multi-compound, in fact, reduces insulin-resistance and visceral inflammation, and has a beneficial action in the dyslipidemia treatment, hyperglycemia control and arterial pressure reduction.**

Olivcomplex® bio-components

OLIVE EXTRACT (*Olea europaea* L.)

The Olive tree has been present in the Mediterranean's herbal medicine history for several millenniums. The extract from olives is known primarily for its hypotensive action, which is able to reduce blood pressure thanks to a pronounced peripheral vasodilatation.

The most important active ingredients, secoiridoids, are represented by oleuropeina, oleoside and several other components. Then there are the triterpenes and lignans; flavonoids are also quite abundant.

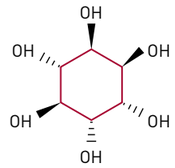
The main indications for the extract of olive tree are:

- a mild **arterial hypertension,** thanks to an hypotensive action;
- **a carbohydrate metabolism action;**
- **a lipid metabolism action;**
- tackles free radicals and oxidative stress, thanks to its antioxidant action.

Olivcomplex® bio-components

D-CHIRO-INOSITOL

The D-chiro-inositol is a **natural compound** extracted from the Carob tree pods and it is a substance already present and synthesized in our body. **It is an important and crucial mediator of insulin´s cellular action;** in fact, numerous scientific observations have demonstrated that **its deficiency may determine an insulin-resistance.** Its supplementation, however, may increase insulin sensitivity and improve the latter's action in insulin-resistant individuals.

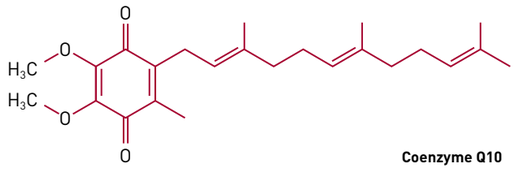


D-chiro-inositol

COENZYME Q10

It is a physiological bio-component in our body, which is essential for the production of ATP (adenosine triphosphate) and indispensable for all energy processes.
It acts on hypertension as a vasodilator through a direct effect on the endothelium and its smooth vascular musculature. It therefore develops its biological function with the following overall actions:

- antioxidant;
- vasodilator;
- oxidation of LDL cholesterol inhibition action;
- **reduction of the inflammation mediators (cytokines);**
- reduction of plasma viscosity.



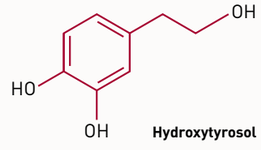
Coenzyme Q10

Scientific-technical focus

Another important component of the extract of Olive:
The HYDROXYTYROSOL

In recent years, researches have focused on another component: hydroxytyrosol.
This molecule is a polyphenol with an antioxidant value, to which many have even attributed various effects on a cardiovascular level, also observable with the extracts of Olive tree, and in particular:

- an antioxidant action;
- a LDL cholesterol oxidation prevention;
- an inhibitory action of several pro-inflammatory cytokines (counteracting action for inflammatory processes);
- an inhibition of platelet aggregation;
- a reduction in homocysteine plasma values;
- neuro-protection.



Hydroxytyrosol

METABOLIC LINE

GLUCOSE, CHOLESTEROL, PRESSURE?

We care about your values.

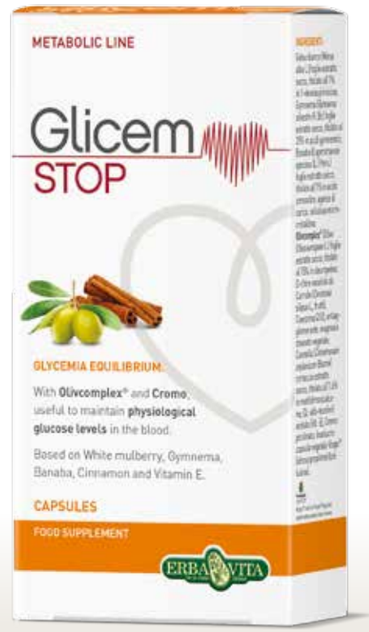
GLICEM STOP

It is useful for the reduction of insulin resistance and for a targeted control of blood glucose

- Improvement of carbohydrate metabolism and peripheral glucose intolerance.
- Optimization of pharmacological performance of vegetal derivatives useful for improving the carbohydrates-hematic state.
- Effectively reduces both postprandial glycemic peak and fasting glycemia.

WITH Olivcomplex®

NEW



Based on: Olivcomplex®, dry extracts of White mulberry at 1% in 1 - deoxinojirimicina, Gymnema at 25% gymnemic acids, Banaba at 1% corosolic acid, Cinnamon at 1.6% metilidrossicalcone; Chromium and Vitamin E.

How to use: it is recommended to take 2 capsules per day with water, 15 minutes before main meals; if necessary 1 more capsule in the morning before breakfast.

Contents: 60 capsules

Olivcomplex®: is an exclusive association formulated by Erba Vita made of an extract of Olive`s leaves, highly titrated (15% oleuropein), with the addition of D-chiro-inositol and Coenzyme Q10, it is able to act simultaneously reducing the different Metabolic Syndrome risk factors (dyslipidemia, hyperglycemia, arterial pressure).

Extract of Mulberry leaves: traditional use and scientific research indicate that Mulberry tree can help hyperglycemic individuals to lower the postprandial glucose value, with effects similar to alglucosidase alfa inhibitors (AGIs), and the following dual action mechanism:
- **lowering of the postprandial glucose value** by inhibiting the enzymatic degradation of carbohydrates and the intestinal absorption of disaccharides;
- **induction of pancreas´ β cells to secrete insulin,** and thus facilitate the use of carbohydrates at a cellular level and the synthesis of hepatic glycogen.

STEROL STOP

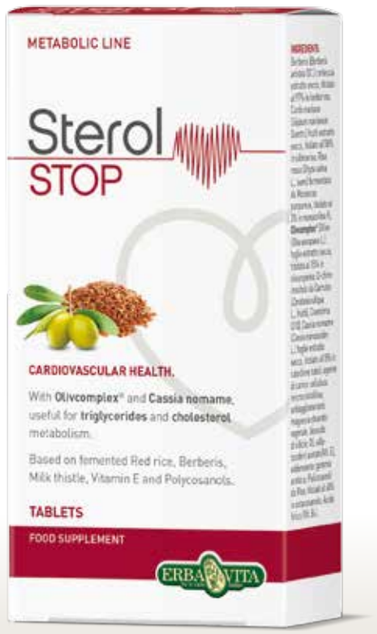
It is useful for the reduction of exogenous and endogenous cholesterol levels

- Inhibition of cholesterol biosynthesis and the level of cholesterol introduced with your diet.
- Acts on the concentration of plasma triglycerides by inhibiting pancreatic lipase.
- With Berberine, it is useful for both changes in the lipid (cholesterol and triglycerides) and glucose profile.
- Useful for dyslipidemic individuals when a drug treatment is not indicated or tolerated.
- Protection against tissue damage (inhibition of radical processes and lipid peroxidation, and prevention of atherosclerotic plaques formation).

WITH Olivcomplex®

NEW HIGHLY EFFECTIVE FORMULA

SYNERGISTIC COMBINATION OF BERBERINE AND SILYMARIN



Based on: Olivcomplex®, fermented Red rice by Monascus purpureus at 3% monacolin K, dry extracts of Berberis at 97% berberine, Milk thistle at 80% silymarin, Cassia nomame at 8% total catechins; Polycosanols from Rice at 60% octaconasolo, Vitamin E and Folic acid.

How to use: it is recommended to take 1 tablet per day with water, preferably in the evening after the main meal.

Contents: 30 tablets

Olivcomplex®: is an exclusive association formulated by Erba Vita made of an extract of Olive`s leaves, highly titrated (15% oleuropein), with the addition of D-chiro-inositol and Coenzyme Q10, it is able to act simultaneously reducing the different Metabolic Syndrome risk factors (dyslipidemia, hyperglycemia, arterial pressure).

Berberine and Silymarin: Berberine contained in Berberis, does not possess a complete bio-availability for oral use: this aspect restricts its effectiveness. Silymarin, contained in Milk thistle, **has been used, in combination with Berberine, with the purpose of enhancing and optimizing the pharmacokinetics performance of Berberine itself, otherwise absorbed with difficulty** (because of the extrusion by the intestinal mucosa enterocytes via glycoprotein P).

TENSIO STOP

It is useful for the reduction of systolic and diastolic arterial pressure values

- Important integration performance for reducing pressure values.
- Ideal for an initial and early hypertensive treatment, before the cardiovascular risk is high, caused by organ damage.
- Effective in mild to moderate hypertension cases, in which an immediate pharmacological antihypertensive treatment is not necessary.

WITH Olivcomplex®

NEW

WITH OLIVE TITRATED IN HYDROXYTYROSOL

Based on: Olivcomplex® and dry extracts of Olive at 10% hydroxytyrosol and Hawthorn at 1.8% vitexin; Vitamin E.

How to use: it is recommended to take 2 capsules per day with water, one in the morning and one in the evening.

Contents: 40 capsules

Olivcomplex®: is an exclusive association formulated by Erba Vita made of an extract of Olive`s leaves, highly titrated (15% oleuropein), with the addition of D-chiro-inositol and Coenzyme Q10, it is able to simultaneously act reducing the different Metabolic Syndrome risk factors (dyslipidemia, hyperglycemia, arterial pressure).

Extract of Olive: is primarily known for its hypotensive action, which is able to reduce blood pressure thanks to a pronounced peripheral vasodilatation. The latter effect is due to the relaxation of the arterial vessels' smooth musculature because of a reduction of the contraction capacity in vessel walls smooth musculature cells. A titrated at 10% hydroxytyrosol extract has been used, in order to benefit from the extraordinary biological activity of this valuable component.

Other essential medicinal plants and micro-nutrients in case of Metabolic Syndrome

	PLANT SPECIES OR MICRONUTRIENT	MAIN FUNCTIONS
STEROL STOP	**SYNERGISTIC COMBINATION OF: BERBERIS** (*Berberis aristata* DC.) **MILK THISTLE** (*Silybum marianum* Gaertn.)	Berberine contained in Berberis, has a particularly important pronounced effect as a cholesterol-lowering agent because its supported by a mechanism of action different from that of statins. Berberine itself acts by reducing the glucose state by inhibiting the absorption of sugars in the intestine and enhancing the capacity of insulin production. Silymarin, contained in Milk thistle, with a concentration between 60% and 80% expressed as flavolignan, is an important liver protector.
STEROL STOP	**RED RICE** (*Oryza sativa* L., seeds) fermented by *Monascus purpureus*	Controlled inhibition of HMG-CoA reductase (key enzyme in the cholesterol endogenous biosynthesis).
STEROL STOP	**CASSIA NOMAME** (*Cassia mimosoides* L.)	Inhibition of intestinal lipases (enzymes responsible for the digestion of dietary fat).
STEROL STOP	**POLYCOSANOL FROM RICE**	Control of cholesterol endogenous biosynthesis and higher speed of removal of LDL cholesterol from blood.
STEROL STOP	**FOLIC ACID**	Folate supplementation may help reduce homocysteine hematic levels (sulphide amino acid resulting from methionine transformation), which may represent an independent risk factor of cardiovascular disease.
STEROL STOP	**VITAMIN E**	Powerful cellular antioxidant with protective action for tissue damage caused by oxidative stress.
GLICEM STOP	**GYMNEMA** (*Gymnema silvestre* R. Br)	Helps control sugar levels in the blood, inhibiting its absorption in the intestine and stimulating their use by obtaining it from its internal reserves.
GLICEM STOP	**BANABA** (*Lagerstroemia speciosa* (L.) Pers.)	Thanks to the action of its active ingredients (Corosolic acid, lagerstroemin, ellagitannins and gallotannins) is an ideal medicinal plant for controlling sugar levels in the blood. This species of plant is also called "The Green Insulin" and has a high hypoglycemic activity. In an experimental study it has also showed further actions, all useful in case of Metabolic Syndrome, reducing the oxidative stress (which is related to cardiovascular risk), inflammation and arterial pressure.
GLICEM STOP	**CINNAMON** (*Cinnamonum zeylanicum* Blume)	Known for its extraordinary ability to reduce glycated hemoglobin (and thus glycation damages), it has been thoroughly tested for its hypoglycemic properties in animal and humans models. In particular, the dual hypoglycemic action mechanism has been attributed to: • a protective action on the pancreatic β cell compared to oxidative damage; • a systemic insulin-sensitizing action.
GLICEM STOP	**CHROME**	Micro-nutritional factor essential for a proper metabolism of sugars: a chromium deficiency may adversely affect the insulin ability to regulate the level of glucose in the blood while its integration may increase it. It is a GTF (glucose tolerance factor) component and comes in the form of picolinate salt that promotes its bioavailability.
GLICEM STOP	**VITAMIN E**	Powerful cellular antioxidant with a tissue damage protective action caused by oxidative stress. The vitamin E intake prior to the glucose oral introduction can reduce oxidative stress and low-grade inflammation; in fact the administration of vitamin E in insulin resistance individuals, reduces the production of pro-inflammatory cytokines.
TENSIO STOP	**OLIVE TREE** (*Olea europaea* L.)	Hypotensive action. It is able to reduce arterial pressure, thanks to a pronounced peripheral vasodilatation. The latter effect is due to relaxation of blood vessels smooth musculature.
TENSIO STOP	**HAWTHORN** (*Crataegus oxyacantha* Medicus)	It is a thoroughly experienced and used medicinal plant. Although modern studies have classified it as appropriate for the cardiovascular system disturbances, its traditional use classifies it as a relaxing plant. In any case, the Hawthorn tree is a heart and circulation protector, which has antioxidant, hypotensive and relaxing value.
TENSIO STOP	**VITAMIN E**	Its intake, during a long period of time, can contribute to the reduction of arterial pressure.

Erba vita METABOLIC Line: security, long term tolerance, quality and effectiveness.

An integration program to engage Metabolic Syndrome and reduce all cardiovascular risks related to it

METABOLIC SYNDROME SPECIFIC PRODUCTS

STEROL STOP
HEMATIC LIPIDS CONTROLLING

- Useful for reducing hematic levels of exogenous and endogenous cholesterol.
- Useful for reducing hematic triglycerides.

GLICEM STOP
HEMATIC GLUCOSE CONTROL

- Improves glucose metabolism and peripheral glucose intolerance.
- Useful for reducing insulin resistance and controlling glycemia.

TENSIO STOP
ARTERIAL PRESSURE CONTROL

- Useful for lowering systolic and diastolic arterial pressure values.
- Effective in cases of mild and moderate hypertension.

ADJUVANTS PRODUCTS

OMEGA SELECT 3[UHC]

- Cell membranes fluidity.
- Nervous system cells vitality.
- Cardiovascular system protective action.

OMEGA SELECT 3-6-7-9

- Optimization of the hematic lipids metabolism, particularly triglycerides.
- Reduction of platelet aggregation.
- Reduction of cardiovascular risk.

PSYLLOVITA FIBRE

- Promotes regular bowel mobility.
- Excellent source of soluble fiber.
- Prebiotic which can favor the development of bacterial flora.
- Promotes the reduction of fats absorption, exogenous cholesterol and sugars.

Merchandising

TOTEM

COUNTER DISPLAY

	DISPLAY BOX	COUNTER DISPLAY	LEAFLET	TOTEM	REGLETTE
STEROL STOP Tablets	●	●	●	●	●
GLICEM STOP Capsules	●				
TENSIO STOP Capsules	●				

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D.P.06.17

Company with ISO 9001 quality system certification