

INDICATIONS

The product supplements the diet in case of increased specific nutritional needs in stressful metabolic situations, such as:

- Intense sports and situations that induce fatigue
- Surgeries
- Protracted fasting
- Traumas - prolonged immobilization
- Febrile and debilitating illnesses
- Old and debilitated animals
- Animals with issues of regular - especially muscular - growth.

PROPERTIES

Stress and emergency situations, including pathological or para-physiological problems, cause particular metabolic conditions, where the need for nutrients and micronutrients is completely different than in normal situations and it is very high and proportional to the cause of the condition. These particular needs are difficult to meet with the normal diet, without a targeted supplement of nutrients. If nutrient deficiencies are not compensated, this may lead to reversible and irreversible biological damages. It certainly slows down recovery significantly.

In case of stress caused by pathological situations, specific supplements are essential to compensate for higher losses, as well as for any deficiency caused by an incomplete diet, and to ensure the necessary efficiency of the immune system. Iken Up Plus for cats and small dogs is formulated as **highly palatable tablets**, thanks to the presence of **high-quality chicken proteins**. In case of intolerances or allergies to such proteins, we recommend the use of Iken Up Plus for medium and large dogs, as their flavourings consist exclusively of non-allergenic, (average molecular weight lower than 1000 Dalton) hydrolyzed protein of porcine origin and can be taken by animals that are allergic to animal proteins.

Iken Up Plus has been designed to supply the right quantity of all nutrients that may be lacking in stress situations.

Branched-chain essential amino acids

L-Leucine, L-Isoleucine, L-Valine: essential for the biosynthesis of the proteins in the muscle masses and in the heart muscle, and a primary source of energy in case of stress caused by excessive strain or pathological stress; they are also modulators of the protein metabolism.

Amino acids with specific metabolic fates

- **L-Arginine and DL-Methionine:** necessary for the synthesis of Creatine, an energy substrate of muscle contraction, and a physiological buffer.
- **L-Lysine and DL-Methionine:** necessary for the synthesis of Carnitine.
- **DL-Methionine:** the most important methylating amino acid.
- **L-Alanine:** glycogenetic amino acid.
- **Arginine and L-Aspartic acid:** essential in the process of elimination of ammonia.

L-Carnitine: it modulates the use of fatty acids in the heart and muscles, to obtain the right energy. It also helps to reduce the consumption of proteins and sugars and prevent the depletion of the muscle tissue and stress-induced acidosis.

Vitamins B1, B2, B6, B12 and Pantothenic acid: useful to compensate for higher consumptions in stress situations and keep adequate levels of all the coenzymatic systems that uses these vitamins as prosthetic groups, particularly Pantothenic acid for coenzyme A.

Antioxidants

Iken Up Plus provides a complete pool of antioxidants capable of combating oxidative stress from all sources: different antioxidants are not always interchangeable, so full protection from the peroxidation of cellular constituents is ensured by their combined action, which is essential to neutralise the large quantities of free radicals produced by stress at the sites of formation and in the physiological situations in which they are formed.

- **Primary antioxidants (or essential antioxidant enzymes) Superoxide dismutase and Glutathione peroxidase (Selenium)** eliminate free radicals at cellular level in a continuous cycle
- **Secondary antioxidants: Vitamin C, Vitamin E and Octacosanol**, which cannot be renewed after their action, repair molecules damaged by oxidative processes
- **Vitamin C and Vitamin E** are also essential for their intrinsic vitaminic action: their consumption is very high in stress situations.

Magnesium, Iron, Zinc

Necessary to compensate for high losses and limit the consequences of deficiencies:

- **Magnesium:** useful for cellular homeostasis and to prevent neuromuscular reactive instability
- **Iron:** it prevents deficiencies of the cellular enzymes which are essential for the life of cells and for the production of energy
- **Zinc:** it prevents the peroxidation of membrane phospholipids and keeps adequate levels in the enzymatic systems (more than seventy) it is part of.