



LACTATE salts are ACTIVES METABOLITES

- Lactates are **vectors for minerals**, enhancing their bioavailability and properties (solubility, taste)
- Lactate is not a waste : **it is oxydized as a fuel** or **converted** to form **pyruvate** or **glucose** that are used by the metabolism
- Lactate is a provides energy in:



- Substrates other than Glucose, most likely lactate, are utilized by the brain in order **to compensate the increased energy needed to maintain neuronal activity**
- Numerous « **LACTATE SHUTTLES** » are existing **in the human body** : intra-cellular, cell-cell and organ-organ lactate exchanges occur

NATURAL ORIGIN organic minerals

- > Lactate part is derived from bio-fermentation of non-GMO maize (COSMOS certified)
- > Obtained by water processes respecting Green Chemistry principles



ISALTIS



GIVOBIO™ La/Mg

Magnesium Lactate



MAGNESIUM is critical for a number of cellular functions

Magnesium plays a role in muscular contraction along with calcium, helps to preserve the bones and teeth structure. Magnesium is a great stress fighter as it allows the storage and release of serotonin, a neurotransmitter. Magnesium has proven beneficial effect on migraines too. Enough magnesium intakes, help to preserve the immune system and the cardiovascular system.

GIVOBIO™ La/Zn

Zinc Lactate



ZINC is an essential component for growth and development

It can be found in many parts of the brain, in eyes membranes, in skin cells, pancreas, suprarenal glands, prostate... Zinc contributes to the normal function of the immune system, to fertility and reproduction, hair/nails/skin aspect, and cognitive functions.

PHYSICAL FORMS OF FINISHED PRODUCTS



Tablets



Capsules



Sachets or sticks



Bottles



Chewable tablets



Effervescent tablets

MAIN PROPERTIES

- Solubility
- High % of mineral
- High bioavailability
- Neutral taste
- Compatibility with probiotics

References

The Science and translation of lactate shuttle theory, Cell metabolism 27, April 3, 2018, George A.Brooks • Blood lactate is an important energy source for the human brain, Journal of Cerebral Blood Flow & Metabolism (2009) 29, 1121-1129 • Lactate – the forgotten fuel! J Physiol. 2002 Jul 15; 542(Pt 2): 333 • Lactate as a Metabolite and a Regulator in the Central Nervous System, Int J Mol Sci. 2016 Sep; 17(9): 1450 • Lactate metabolism: a new paradigm for the third millennium, J Physiol. 2004 Jul 1; 558(Pt 1): 5-30 • Comprehensive review on lactate metabolism in human health, Mitochondrion, 2014 Jul; 17:76-100 • Effect of inorganic and organic zinc supplementation on coccidial infections in goat kids, June 2011, Acta Veterinaria Brno 80(2):131-137 • The effect of oral magnesium substitution on pregnancy-induced leg cramps, July 95, American Journal of Obstetrics & Gynecology • Please contact us for more details

ABOUT ISALTIS

High purity organic mineral salts manufacturer

- Manufacturing in France, worldwide supply
- Pharma, nutrition, veterinary and cosmetic ingredients
- GMP certification
- Responsible Care / Green Chemistry
- Halal and Kosher certifications
- Worldwide supplier



ISALTIS

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