Konnekt Smartdrinks

A healthy alternative for conventional soft-drinks

Sweetness in all Konnekt products is achieved by applying a unique blend of natural sweeteners: isomaltulose and steviol glycosides. Isomaltulose naturally occurs in honey and has a natural sweet taste. One of the main reasons to apply this alternative sugar in Konnekt Smartdrinks is its unique property of being slowly digested in the small intestine. The more gradual energy uptake as compared to ordinary sweeteners like sucrose and high-fructose corn syrup (HFCS) makes isomaltulose a carbohydrate with a particularly low glycemic index (GI), Figure 1. Low GI foods and beverages help keeping a healthy and constant blood sugar level. All of the evidence based recommendations for the management of diabetes from the major diabetes organisations around the world (the American Diabetes Association; Canadian Diabetes Association and Diabetes UK for example) now advise people with type 1 and type 2 diabetes to use the glycemic effect of food intake as part of the nutritional management of their condition. Also healthy individuals are advised to avoid peaks and a high blood sugar level in general as research from Unilever R&D and Leiden University Medical Center has uncovered a new side-effect of high blood glucose (sugar) levels. Their study shows a relationship between a person's blood glucose level and their perceived facial age. The higher the concentration of blood sugar, the older they appear to look[2].

Zero calorie beverages are generally sweetened with artificial sweeteners such as sucralose or aspartame. However, accumulating evidence suggests that frequent consumers of these sugar substitutes may also be at increased risk of excessive weight gain, metabolic syndrome, type 2 diabetes, and cardiovascular disease[3]. Since artificial sweeteners are poorly or not at all degraded after ingestion they bind to sweet taste receptors that are also present in the ileum and colon and trigger the release of hormones that are involved in digestion[4]. The advantage of natural sweeteners like steviol glycosides is that they can be fully degraded after ingestion so that these troublesome hormone effects are circumvented.

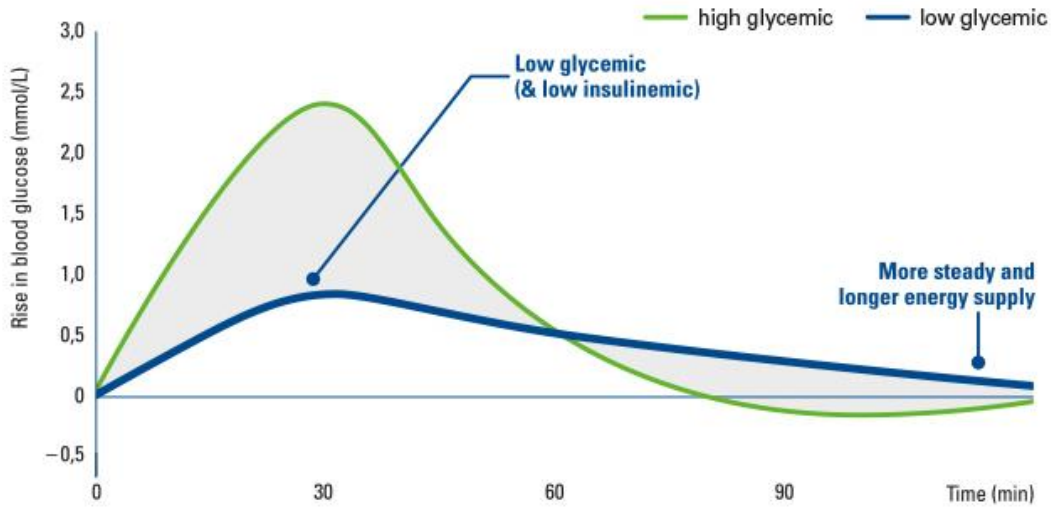

Figure 1. Blood glucose profile of sucrose (green line) versus isomaltulose (blue line)[1].

All Konnekt Smartdrinks contain the natural amino acid L-arginine. This semi-essential amino acid is the precursor of nitric oxide (NO), an important signalling molecule. As an intercellular messenger nitric oxide is involved in regulating vasodilation and thereby it helps to protect tissues from damage due to low blood supply. NO also has functions in the immune system's reaction to infection. Besides nitric oxide, arginine is also a precursor for of creatine and other biologically relevant biomolecules. Creatine is for example essential for the regeneration of ATP (biomolecular energy carrier in the cell).

Konnekt Focussing

On top of isomaltulose and L-argininge, **Konnekt Focussing** contains an additional functional ingredient: L-Alpha glycerylphosphorylcholine (alpha-GPC). Alpha-GPC rapidly delivers choline to the brain across the blood–brain barrier and is a biosynthetic precursor of acetylcholine[5]. It was demonstrated that alpha-GPC enhances cognitive function in rodents but to date no evidence is available that it works similarly in human. Alpha-GPC was shown to improve cognitive function in people suffering from mild to moderate Alzheimer's dementia[6].

Konnekt Enduring

Konnekt Enduring contains a blend of so called branched chain amino acids (BCAAs) and alpha-ketoglutarate (AKG) besides the functional ingredients isomaltulose and L-arginine. BCAA's represent three essential amino acids; L-leucine, L-isoleucine and L-valine. Physiologically, BCAAs play an important role in the immune system and in brain function. BCAAs are processed by immune cells, and are required for lymphocyte growth and proliferation and cytotoxic T lymphocyte activity[7]. Moreover, BCAAs contribute to energy metabolism during exercise as energy sources and substrates to expand the pool of citric acid–cycle intermediates and for gluconeogenesis. Especially leucine is required

for muscle-protein synthesis. AKG is a natural compound that plays a central role in the citric acid cycle and was shown in an animal model to be an effective radical scavenger and to extends lifespan[8].

Konnekt Relaxing

Konnekt Relaxing contains a the functional ingredient 5-hydroxy-L-tryptophan (5-HTP) as functional ingredient besides isomaltulose and L-arginine. 5-HTP is a naturally occurring amino acid and chemical precursor as well as a metabolic intermediate in the biosynthesis of the neurotransmitter serotonin. Serotonin is primarily found in the gastrointestinal tract (GI tract), blood platelets, and the central nervous system. It contributes to feelings of well-being and happiness and is involved in the regulation of sleep[9].

References

1. www.beneo.com/Benefits/Energy_Management/
2. Noordam, R., Gunn, D.A., Tomlin, C.C. et al. - High serum glucose levels are associated with a higher perceived age. AGE (2013) 35: 189.
3. Susan E. Swithers Artificial sweeteners produce the counterintuitive effect of inducing metabolic derangements. Trends Endocrinol Metab. 2013 Sep; 24(9): 431–441.
4. Allen A. Lee and Chung Owyang - Sugars, Sweet Taste Receptors, and Brain Responses Nutrientsv.9(7); 2017 JulPMC5537773
5. Parnetti L, Mignini F, Tomassoni D, Traini E, Amenta F. Cholinergic precursors in the treatment of cognitive impairment of vascular origin: ineffective approaches or need for re-evaluation? J Neurol Sci. 2007 Jun 15;257(1-2):264-9. Epub 2007 Feb 28. Review. PubMed PMID: 17331541.
6. De Jesus Moreno Moreno M. Cognitive improvement in mild to moderate Alzheimer's dementia after treatment with the acetylcholine precursor choline alfoscerate: a multicenter, double-blind, randomized, placebo-controlled trial. Clin Ther. 2003 Jan;25(1):178-93. PubMed PMID: 12637119.
7. Shimomura Y, Murakami T, Nakai N, Nagasaki M, Harris RA. Exercise promotes BCAA catabolism: effects of BCAA supplementation on skeletal muscle during exercise. J Nutr. 2004 Jun;134(6 Suppl):1583S-1587S. Review. PubMed PMID: 15173434.
8. Chin RM, Fu X, Pai MY, Vergnes L, Hwang H, Deng G, Diep S, Lomenick B, Meli VS, Monsalve GC, Hu E, Whelan SA, Wang JX, Jung G, Solis GM, Fazlollahi F, Kaweeteerawat C, Quach A, Nili M, Krall AS, Godwin HA, Chang HR, Faull KF, Guo F, Jiang M, Trauger SA, Saghatelian A, Braas D, Christofk HR, Clarke CF, Teitell MA, Petrascheck M, Reue K, Jung ME, Frand AR, Huang J. The metabolite α-ketoglutarate extends lifespan by inhibiting ATP synthase and TOR. Nature. 2014 Jun 19;510(7505):397-401. doi: 10.1038/nature13264. Epub 2014 May 14. PubMed PMID: 24828042; PubMed Central PMCID: PMC4263271.
9. Young SN. How to increase serotonin in the human brain without drugs. J Psychiatry Neurosci. 2007 Nov;32(6):394-9. Review. PubMed PMID: 18043762; PubMed Central PMCID: PMC2077351.