Lonza DHA is a pure vegetarian and allergen-free source of the important omega-3 fatty acid DHA (Docosahexaenoic acid), manufactured via a unique fermentation process from microalgae. Lonza DHA comes from renewable resources and is free of potential contaminants that are discussed for fish and seafood.

What is DHA (Docosahexaenoic acid)?

DHA is the most important omega-3 fatty acid for human health, being particularly effective in the areas of brain, heart and eye health. It occurs naturally as a building block of cell membranes and contributes to membrane properties such as fluidity, flexibility and permeability. Limited storage of DHA in adipose tissue suggests that a continued supply is needed. DHA in the body is mainly derived from intake of fish and seafood.

Contaminant-free Lonza DHA

Fish is an important source of nutrients including proteins, omega-3 fatty acids and certain vitamins and minerals. However, fish also contribute significantly to the dietary exposure to contaminants such as methylmercury, dioxins and PCBs (polychlorinated biphenyls). The concentrations of these contaminants in fish vary with the nature of the contaminant and the type of fish.
The EFSA (European Food Safety Authority) recommends that women of child-bearing age should not exceed two portions of fatty fish per week, and take into account other possible sources of exposure to dioxins and PCBs. This is because the accumulation of these toxins in the body fat takes many years for the body to clear. Hence women who are pregnant, intending to become pregnant or breastfeeding, as well as young children should consume up to two portions of fish per week, selected from a wide range of species without giving undue preference to top predatory fish. Also fish oils are prone to contamination by organic chemicals, especially from farm-raised fish. It is also clear that vegetarians and those who do not eat fish get very little DHA with their diet. Therefore, the consumption of dietary supplements and functional food enriched with Lonza DHA constitutes an attractive option in order to achieve the recommended intake. It is important to note that Lonza DHA represents an allergen-free and vegetarian source of DHA that comes from renewable resources and does not contribute to the common problem of overfishing of the sea.

Lonza DHA Production Process

Using naturally occurring microalgae, Lonza's innovative technology allows DHA oils to be produced with a superior quality. During the unique fermentation process, microalgae are grown in large quantities under fully controlled conditions and accumulate significant quantities of DHA. After the fermentation process, Lonza DHA is extracted from the microalgae and refined in processes that are very similar to those used in the production of conventional vegetable oils.

Quality & Safety Aspects of Lonza DHA

Quality at a glance
- Vegetarian source of DHA
- High concentration of DHA
- Allergen free
- Accordance with HACCP and GMP standards for food products
- Full traceability
- Free of any materials of animal origin
- Free of any genetically modified organisms (GMOs)
- Clean taste
- Production based on renewable resources

Safety at a glance
- Self-affirmed GRAS
- Approved according to Novel Food in EU, Australia and New Zealand
- Free of any potential contaminants that are discussed for seafood

Lonza's DHA Products

Lonza is producing Lonza DHA in the following forms:

- Lonza DHA FO (Food Oil)

Lonza DHA FO is a food grade oil which contains at least 43% DHA of total fatty acids. Lonza DHA FO is best suited for use in food products, especially enriched foods.

- Lonza DHA CL (Clear Liquid)

Lonza DHA CL is a clear food-grade oil with at least 43% DHA of total fatty acids. Lonza DHA CL is especially developed for the use in dietary supplements (soft gels), where the oil is visible in the capsules. It can also be used in any other food application.

Additional powder formulations of Lonza DHA are available on request. Please contact us at dha@lonza.com.

Why is DHA so important?

It has become clear that dietary intake of the precursor omega-3 fatty acid, alpha-linolenic acid (ALA), which is available in a variety of plant oils, cannot make up for the low dietary intake of omega-3 DHA. Humans are very poor DHA synthesizers from precursor omega-3 fatty acids. Aging, illness and stress, as well as excessive amounts of omega-6 rich oils (corn, safflower, sunflower, cotton seed) can all compromise conversion.
Various human feeding studies which have addressed the question of bioconversion of ALA to EPA and DHA, have concluded that conversion of ALA to EPA is limited and conversion to DHA is extremely low (<0.1%).
Uptake of DHA from the diet may thus be critical for maintaining adequate membrane DHA concentrations. In a recent study including more than 100 healthy vegetarians, 7 weeks of Lonza DHA supplementation was found to significantly increase their DHA plasma levels as compared with placebo.

DHA for mother and child

Under the present dietary conditions, maternal intake of omega-3 fatty acids is insufficient to keep up with the increased demand during pregnancy. Most national and international authorities therefore recommend increasing DHA intake during pregnancy and lactation to 200-300 mg/day.
After birth, the newborn baby continues to obtain DHA from the mother via breast milk. The DHA content of the breast milk is directly related to the dietary DHA intake of the mother, supplementation with DHA increases the

DHA content in human milk. Prenatal and early postnatal positive DHA status is thought to have important consequences on the growth and function of the central nervous system (CNS) and, consequently, on neurological and cognitive development of the child.
The significant positive association between maternal DHA intake during pregnancy and the child's mental processing scores at 4 years of age suggest that optimization of the DAH status of expectant women may offer long-term developmental benefits to their children. In school-age children, DHA is reported to aid the concentration and regulate attention and control behaviour.

What is Lonza DHA?

- pure vegetarian source of omega-3 DHA
- produced via a patented fermentation process from microalgae
- allergen – solvent – GMO free
- free of contaminations that are discussed for seafood
- highly concentrated food grade oil
- superior sensory properties

About Lonza

In the sector of health ingredients, Lonza creates value-added solutions for the food and dietary supplement industries. In addition to vegetarian DHA, Lonza offers L-Carnipure®, the soluble prebiotic fiber Arabinogalactan, Nicotinates as well as medium chain triglycerides and emulsifiers.

Lonza has also a vast experience in product development, marketing and scientific support for their products. Benefit from this expertise.

For further information, please come and see us at the HI in Frankfurt at booth E49 in hall 3 or contact us:

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Lonza

Lonza DHA
from a vegetarian source.