

2009 Asia Pacific Frost & Sullivan Product Innovation Award In the Field Of Ingredients For Dietary Supplements**Fuji Chemical Industry Co. Ltd.**

The 2009 Frost & Sullivan Asia-Pacific Product Innovation Award in the field of ingredients for dietary supplements is conferred on Fuji Chemical Industry, Toyama, Japan in recognition of its proprietary product AstaREAL®, the branded natural astaxanthin that has exceptionally high antioxidant content. AstaREAL® which is available in both oil extract and powdered form can be used in the development of dietary supplements in more than 20 countries.

Company Backgrounder

Established in the year 1946, Fuji Chemical industry Co. Ltd is based at Toyama, Japan. Initially, the company manufactured yeast cells for bread production. The company gradually moved to be a part of the Japanese pharmaceutical industry space through its product Neusilin, an antacid. Fuji is focused in R&D and manufacturing of its own pharmaceutical excipients and offers custom manufacturing services with its own specialized platform technologies. In addition to this, Fuji has diversified its business by stepping into the nutraceutical arena to develop health products that are intended to maintain and promote health and well-being. Fuji's mission is to offer clinically safe and effective products that are developed using its cutting edge technology and years of R&D experience.

Product Overview

In modern times, there is a paradigm shift from treating disease to preventing disease in order to improve the quality of life of individuals. The intake of antioxidants contained in food and nutraceutical products is meant to suppress active oxygen damage a.k.a. free radicals in the body. A new ingredient, natural astaxanthin, is shown to protect biological membranes against oxidative attack which also suppresses excess inflammation leading to a number of health benefits.

Astaxanthin, a naturally available carotenoid is found in abundance from the arctic marine environment to the common rock pool. In nature, astaxanthin is present in crustaceans, fish and even birds. But the highest concentration of the astaxanthin is found to be present in the unicellular microalgae called *Haematococcus pluvialis*.

In the recent years, it has been proven that astaxanthin is associated with maintenance of eye health, muscle endurance and skin health.

Fuji's natural astaxanthin ingredient is promoted worldwide under the brand names AstaREAL® and AstaTROL™. AstaREAL® Astaxanthin has been developed for use in dietary supplements and is available in both oil and powdered forms. AstaTROL™ astaxanthin is intended to be used in cosmetics and personal care products. A number of clinically proven studies and human clinical trials have been conducted on AstaREAL® astaxanthin to support the fact that the antioxidant profile of this ingredient is exceptional when compared to the other antioxidant products available.

Innovative Features

AstaREAL® Astaxanthin has been developed from *Haematococcus Pluvialis* microalgae. AstaREAL® is cultivated in ultra-clean BioDome™ System in Maui, Hawaii and the state-of-the art photobioreactors in Gustavsberg Sweden. BioDome is a closed system of cultivation that effectively offers optimum condition for the production of astaxanthin that yields the highest quality and it also ensures to reduce the risk of contamination. The indoor photobioreactor is loosely based on the traditional fermentation cultivation apparatus. The system offers high quality biomass containing astaxanthin.

The antioxidant profile of AstaREAL® astaxanthin is potent than other sources of antioxidants including alpha lipoic acid, green tea catechins, coenzyme Q10, vitamin C, vitamin E, beta-carotene, and grape seed extracts. It offers excellent antiperoxidative membrane activity, it inhibits the expression of the inflammatory gene NF-kB, and it also suppresses DNA damage.

A number of studies have been conducted to demonstrate the effective role of astaxanthin in the management of asthenopia, otherwise referred to as eye fatigue. Studies have also been conducted to prove the role of astaxanthin in improving skin health. Astaxanthin improves the skin's ability to resist the harsh environmental conditions from stripping of it of natural antioxidants. It also reduces redness, puffiness, and wrinkles. Research shows that astaxanthin may modify muscle metabolism through its antioxidant effect thus improving muscle function during exercise.

Best Practices

Fuji Chemical Industry, a pioneer manufacturer of astaxanthin is committed to the industry and consumer promotion of the AstaREAL® brand globally. AstaREAL® astaxanthin's safety and efficacy is supported by a number of comprehensive studies conducted on both animal models and humans to explicitly suggest the lack of any toxicological finding that renders the product safe and effective to use.

With more than 50 years of experience in the pharmaceutical manufacturing and quality control, Fuji supports the development of AstaREAL®. Fuji's AstaREAL® has been approved to be used as a dietary supplement in the United States, Europe and Japan. Fuji Chemical Industry supplies AstaREAL® to over 20 countries and its formulated in a number of high profile supplements.

Fuji holds a number of patents related to the use of AstaREAL® for human health. Patents have been applied for a number of application areas including visual fatigue, sports and mobility, stomach health, anti-inflammatory, immune response, type 2 diabetes kidney disease, reduction of BMI, fertility, and maternal nutrition.

Foreseeing the challenges ahead such as tougher market and regulatory requirements, Fuji's pharmaceutical background proves useful. The company has an efficient information network in place amongst the Research and Development, Marketing, Manufacturing, and Quality Control units which has enabled them to work on the needs and requirements of their customers as well as regulatory needs. Their other goal focuses on increasing global awareness and acceptance of AstaREAL® astaxanthin health benefits through evidence backed communication.

Conclusion

Frost & Sullivan's Asia-Pacific Product Innovation Award identifies Fuji Chemical Industry for its efforts in the research and development of AstaREAL®, a natural astaxanthin that can be used in the development of dietary supplements. AstaREAL® astaxanthin has been proven to offer a number health benefits including eye health, muscle endurance and skin health.

Award Description

The Frost & Sullivan Award for Product Innovation is presented each year to the company that has demonstrated excellence in new products and technologies within its industry. The recipient company has shown innovation by launching a broad line of emerging products and technologies.

Research Methodology

To choose a recipient of this Award, the analyst team tracks all new product launches, research and development (R&D) spending, products in development, and new product features and modifications. This is accomplished through interviews with the market participants and extensive secondary and technology research. All new product launches and new products in development in each company are compared and evaluated based on degree of innovation and customer satisfaction. Companies are then ranked by number of new product launches and new products in development.

Measurement Criteria

In addition to the methodology described above, there are specific criteria used to determine final competitor rankings in this industry. The recipient of this Award has excelled based on one or more of the following criteria:

- Significance of new product(s) in its industry
- Competitive advantage of new product(s) in its industry
- Product innovation in terms of unique or revolutionary technology
- Product acceptance in the marketplace
- New product value-added services provided to customers
- Number of competitors with similar product(s).

About Best Practices

Frost & Sullivan Best Practices Awards recognize companies in a variety of regional and global markets for demonstrating outstanding achievement and superior performance in areas such as leadership, technological innovation, customer service, and strategic product development. Industry analysts compare market participants and measure performance through in-depth interviews, analysis, and extensive secondary research in order to identify best practices in the industry. awards.frost.com

About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best in class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation and implementation of powerful growth strategies. Frost & Sullivan leverages over 45 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 31 offices on six continents. To join our Growth Partnership, please visit www.frost.com.