

DSM Press Release

DSM Nutritional Products

Global Communications

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New scientific evidence confirms the crucial role lutein and zeaxanthin play for good vision

In a study supported and sponsored by DSM Nutritional Products and published in IOVS¹ today, researchers under the lead of D. Max Snodderly², Ph.D., report a breakthrough in eye health research.

The two carotenoids zeaxanthin and lutein normally occur in high concentration in the macula lutea, the center of the retina, where visual acuity is sharpest. These carotenoids have been associated with a reduced risk of Age-Related Macular Degeneration (AMD), the leading cause of vision loss for people over the age of 50 in the Western world, affecting approximately 25-30 million people. Now, for the first time, researchers have shown that lutein and zeaxanthin play a crucial role in maintaining the distribution of Retinal Pigment Epithelium (RPE) cells. RPE cells are responsible for the continuous functional maintenance of photoreceptor cells. With improperly functioning RPE cells, photoreceptor function is severely impaired, finally leading to the death of photoreceptors and consequently to loss of vision.

In their study, the researchers have investigated a unique colony of monkeys raised on a carotenoid-free diet throughout their life. Because of this feeding history, carotenoids were undetectable in plasma and in the retina, where the normal macular yellow pigment was totally absent. This life-long absence of carotenoids in the retina led to an abnormal spatial distribution of RPE cells. When supplemented with lutein and OPTISHARPTM (Zeaxanthin), plasma concentrations of lutein and zeaxanthin as well as the density of macular pigment increased quickly. Most importantly, however, the abnormal distribution of the RPE cells was partly normalized. Therefore, the authors conclude that "...both macular pigments [lutein and zeaxanthin] ... appear to be important for the development and/or maintenance of a normal density profile of RPE cells in the central retina". Given the paramount importance of RPE cells for the health of the photoreceptors, these results further support the crucial role lutein and zeaxanthin play for good vision.

DSM Nutritional Products offers the dietary supplement / OTC and food industry excellent, highly stable lutein and OPTISHARPTM (Zeaxanthin) formulations for a wide range of applications: Lutein 5% TG/P for direct compression tablets, Lutein 20% FS for soft gelatin capsules, Lutein 5% CWS for the fortification of foods and beverages and the use in effervescent tablets, OPTISHARPTM (Zeaxanthin) 5% CWS/S-TG, an animal-free formulation for direct compression tablets, the fortification of foods and beverages and the use in effervescent tablets, and OPTISHARPTM (Zeaxanthin) 20% FS for soft gelatin capsules.

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DSM Nutritional Products, the successor to Roche's Vitamins & Fine Chemicals Division, is the world's leading supplier of vitamins, carotenoids and other fine chemicals to the feed, food, dietary supplement / OTC and cosmetic industries. The company will maintain its tradition as a pioneer in the discovery of new products, new formulations and attractive applications for all industry segments. For further information please visit www.dsmnutritionalproducts.com.

¹ Investigative Ophthalmology & Visual Science. 1st paper: Martha Neuringer et al., 2nd paper: Ivan Y.-F. Leung et. al
² from The Schepens Eye Research Institute and Department of Ophthalmology, Harvard Medical School, Boston, MA, now at Medical College of Georgia

DSM

DSM is active worldwide in life science and nutritional products, performance materials and industrial chemicals. The company creates innovative products and services that help improve the quality of life. DSM's products are being applied in a wide range of end markets and applications such as human and animal nutrition and health, cosmetics, pharmaceuticals, automotive and transport, coatings, housing and electrics & electronics (E&E). The group has annual sales (pro forma including the recent acquisition - renamed DSM Nutritional Products) of approximately EUR 8 billion and employs in the region of 25,000 people around the world. DSM ranks among the global leaders in many of its fields. DSM is headquartered in the Netherlands, with locations in Europe, Asia and the Americas. More information about DSM can be found at www.dsm.com.

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