

## **DSM welcomes findings on additional health benefits of Beta-Carotene**

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New research by Professors Wolfgang Köpcke and Jean Krutmann indicates that increased consumption of  $\beta$ -Carotene-rich food may provide long-term systemic protection against sunburn. Köpcke and Krutmann's paper "Protection From Sunburn with  $\beta$ -Carotene – A Meta Analysis", which appeared in *Photochemistry and Photobiology*, 2008, 84, analyzes seven reports on clinical trials exploring the relationship between consumption of  $\beta$ -Carotene and skin resistance to ultraviolet (UV) radiation.

The authors, from Münster University Hospital and the Institut für Umweltmedizinische Forschung in Düsseldorf, Germany, respectively, make two major conclusions. "*Our meta analysis shows that  $\beta$ -Carotene supplementation significantly protects the skin against sunburn,*" explains Professor Köpcke, citing a factor of  $p < 0.01$ . "*Moreover, we ascertained that the length of time during which  $\beta$ -Carotene is consumed has a clear influence on the protection provided.*"

While offering less powerful and immediate protection than sunscreens, nutritional protection may therefore provide a good basis for an overall long-term anti-sunburn strategy. "*A combination of  $\beta$ -Carotene and other antioxidants taken orally might be used to provide a low level of ongoing protection,*" says Professor Krutmann. "*This should be increased by the ad hoc topical application of sunscreens for occasions when the skin is likely to be exposed to strong sunshine for longer periods.*"

Manfred Eggersdorfer, Head of R&D at DSM Nutritional Products, comments: "*These findings demonstrate our ever-growing understanding of the vital link between nutritional intake and health. It has often been said that 'We are what we eat'. Nutritional science is increasingly demonstrating how we can influence our health and well-being by means of the nutritional choices we make.*"

### **About Carotenoids**

$\beta$ -carotene is a carotenoid. Carotenoids are the pigments that give color to egg yolks, tomatoes, fungi, all green leaves, fruits, and flowers. They also occur in crustaceans, certain fish species, feathers and insects. They cannot be made in the body and must be obtained in the diet.

DSM was the first company to synthesize commercial quantities of carotenoids starting with the production of  $\beta$ -carotene in 1954. Today DSM Nutritional Products produces carotenoids for use in cosmetics, animal and human nutrition and health. Most of these are nature-identical, which means that their chemical structures and properties cannot be distinguished from the carotenoids found in plants or animals.

### **About DSM Nutritional Products**

DSM Nutritional Products is the world's leading supplier of vitamins, carotenoids and other fine chemicals to the feed, food, pharmaceutical and personal care industries. The business has sales of over EUR 2 billion and a long tradition as a pioneer in the discovery of new products, new formulations and attractive applications for all industry segments. For further company information please visit [www.dsmnutritionalproducts.com](http://www.dsmnutritionalproducts.com).

### **DSM – the Life Sciences and Materials Sciences Company**

Royal DSM N.V. creates innovative products and services in Life Sciences and Materials Sciences that contribute to the quality of life. DSM's products and services are used globally in a wide range of markets and applications, supporting a healthier, more sustainable and more enjoyable way of life. End markets include human and animal nutrition and health, personal care, pharmaceuticals, automotive, coatings and paint, electrics and electronics, life protection and housing. DSM has annual sales of almost EUR 8.8 billion and employs some 23,000 people worldwide. The company is headquartered in the Netherlands, with locations on five continents. DSM is listed on Euronext Amsterdam. More information: [www.dsm.com](http://www.dsm.com).

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***Forward-looking statements***

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