

HALORUBIN

*NATURE'S MOST EFFECTIVE ANTIOXIDANT
FOR ADVANCED SKIN PROTECTION*

HALORUBIN is manufactured of the most effective antioxidant among natural carotenoids called Bacterioruberin. This specific carotenoid is only produced by Haloarchaea to reinforce their cell membrane and protect the cells against ROS, primarily caused by extreme UV irradiation. Clearly proven is this specific carotenoid present higher antioxidant capacity compared to common carotenoids or antioxidants produced by other live forms, e.g. plants or bacteria.

The strong antioxidative properties of Bacterioruberin can protect skin cells by preventing lipid peroxidation and breakage of DNA through effectively scavenging of ROS.

INCI: Glycerin, Carotenoid

Recommended use level: 0,1 - 2%

STAND V58

DNA Protection Assay

Effects of **HALORUBIN** and other commercial carotenoids were investigated using a Hydroxyl radical- induced DNA break system in vitro. DNA control was totally broken into relaxed form by ROS generated from the Fenton reaction ($\text{Fe}^{2+} + \text{H}_2\text{O}_2$).

At a concentration of $10 \mu\text{g}/\text{ml}$ **HALORUBIN** effectively prevent ~ 55 % of supercoiled DNA (natural form) in relation to untreated DNA (pUC18). DNA protection by **HALORUBIN** was found more effective compared to other tested commercial carotenoids like natural Astaxanthin (Ast, 32%), beta- Carotene (Car, 30%), Lutein (Lut, 23%) and Lycopene (Lyc, 35%).

