OPE6) Astaxanthin Inhibits Autophagic Cell Death Induced by Environmental Hormones in Human Dermal Fibroblasts

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Abstract

Astaxanthin, a natural antioxidant carotenoid, has been thought to provide health benefits by decreasing the risk of oxidative stress?related diseases. In the present study, we investigated the effect of an astaxanthin during the autophagic cell death induced by bisphenol A (BPA) which is known major environmental pollutants. We found that astaxanthin significantly blocked the autophagic cell death via inhibition of intracellular Reactive Oxygen Species (ROS) in normal human dermal fibroblasts. Astaxanthin significantly inhibited the phosphorylation mitogen-activated protein kinase (MAPK) and nuclear factor-kappa B (NF-κB) responsible for the expression of LC3-II and Beclin-1 in BPA-treated normal human dermal fibroblasts. We suggest that astaxanthin blocks autophagic cell death induced by BPA via the inhibition of ROS-mediated signaling events in human dermal fibroblasts.

Key words : Astaxanthin, Bisphenol A, Normal Human Dermal Fibroblasts