

2014 Annual Conference & Exhibition

Functional Foods, Nutraceuticals, Natural Health Products, and Dietary Supplements



14-17 October 2014, Istanbul - Turkey

Conference Co-Organizers

Dr. Fereidoon Shahidi (Canada)

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Dr. Cesarettin Alasalvar (Turkey)

Local Conference Chair

Dr. Cesarettin Alasalvar (Turkey)

Important Dates

Abstract Submission Deadline: July 07,2014
Notification of Acceptance: July 18, 2014
Early Bird Registration Deadline: August 15, 2014

Conference Venue

stanbul Military Museum & Culture Site



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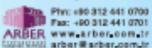












Indicaxanthin from Opuntia Ficus Indica exerts antioxidant and anti-inflammatory effects in an in vitro model of human corneal dysfunction.

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Indicaxanthin is a betalainic phytochemical from Cactus Pear Fruit (Opuntia Ficus Indica). We have recently showed that this compound is a reducing molecule, able to penetrate cells and counteract oxidative damage in vitro. Moreover, it behaves as a signalling molecule modulating specific redox-dependent pathways in vitro. Remarkably, indicaxanthin is highly bioavailable and has been suggested to play a key role in the antioxidative effects associated with the consumption of the fruit. In this work we have investigated the antioxidative and anti-inflammatory effects of indicaxanthin in an in vitro model of human corneal dysfunction.

Human corneal epithelial cells were cultured as previously described [5]. Antioxidative effects were evaluated as reactive oxygen and nitrogen species (RONS) production in H_2O_2 -stimulated HCE, by flow cytometry. Anti-inflammatory effects were assessed as the release of TNF- α and IL-1 β in LPS-activated HCE by ELISA.

Our results show that indicaxanthin inhibits RONS production in H_2O_2 -stimulated HCE in a concentration range between 5 and 50 μ M with a maximum inhibition of 80.2% (P<0.001). These antioxidative effects were paralleled by a significant reduction of both IL-1 β and TNF- α release in LPS-activated HCE by the phytochemical. Indicaxanthin, indeed, concentration-dependently inhibited the release of both cytokines with a maximum inhibition of 75.2 and 86.4% respectively (P<0.001).

Together these results indicated that indicaxanthin protects HCE exerting strong antioxidative and anti-inflammatory effects in vitro.