

## عنوان مقاله:

Research Article: Optimization of production and antioxidant activity of fucoxanthin from marine haptophyte algae, *Isochrysis galbana*

## محل انتشار:

مجله علوم شیلات ایران، دوره 19، شماره 6 (سال: 1399)

تعداد صفحات اصل مقاله: 8

## نویسندگان:

R. Mousavi Nadushan - *Department of Marine Biology, Tehran North Branch, Islamic Azad University, Tehran, Iran*

I. Hosseinzade - *Department of Marine Biology, Tehran North Branch, Islamic Azad University, Tehran, Iran*

## خلاصه مقاله:

This study compared the biomass production, fucoxanthin production and antioxidant capacity of the fucoxanthin from the marine haptophyte algae, *Isochrysis galbana* under different nitrogen concentrations. At first step in the salinity test, *I. galbana* could grow in ۲۰‰ and ۳۵‰ but the ۳۵‰ salinity was optimal. At second step, five different nitrogen concentrations (N-NO<sub>3</sub>) of ۲, ۴, ۸, ۱۲ mM, at the salinity of ۳۵‰, were investigated. Algal cell density increased as nitrogen concentrations increased, but a low growth rate occurred in the culture with the highest nitrogen concentration (۱۲ mM). The maximum cell density of ۷۲× and the maximum amount of fucoxanthin (۱۸.۱ mg g<sup>-1</sup>) was obtained in *I. galbana* cultured in media containing four mM nitrogen (N-NO<sub>3</sub>). The purified fucoxanthin exhibited strong antioxidant properties, with the effective concentration for ۵۰% scavenging (EC<sub>50</sub>) of ۱, ۱-dihpenyl-۲-picrylhydrazyl (DPPH) radical, being ۰.۲ mg/ml. This study suggests that the production and fucoxanthin concentration of *I. galbana* can be improved using nitrogen-replete culture in ۳۵‰ salinity. Also under this condition this microalgaecan be a commercial source of fucoxanthin for human health and nutrition.

## کلمات کلیدی:

*Isochrysis galbana*, Culture, Nitrogen replete, Salinity, Fucoxanthin

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1396945>

