

Characterization of heterotrophs from Icelandic waters

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The main objective of this project was to isolate and culture protista of the Thraustochytriaceae family.

Sea-samples were collected and pure cultures of 39 strains of Thraustochytrids were isolated. The microalgae were cultivated at 25°C for 4 to 7 days. The strains used glucose and glycerol as carbon sources. Total lipid content was approximately 10% of biomass dry weight. Highest dry weight was obtained at 3,92 g/l. Fatty acid composition of DHA (C22:6-n3), DPA (C22:5-n6), EPA (20:5n-3) and ARA (20:4-n6) were highest at 37,5 %, 5,4 %, 6,2% and 19,7 respectively. Concentration of carotenoids was highest 371 µg/g.

Thraustochytrium kinnei, and for the first time, Sicyoidochytrium minutum have been isolated and identified from Icelandic waters. These results encourage further studies of the strains and production on a bigger scale.