

Cultures for breeding micro algae

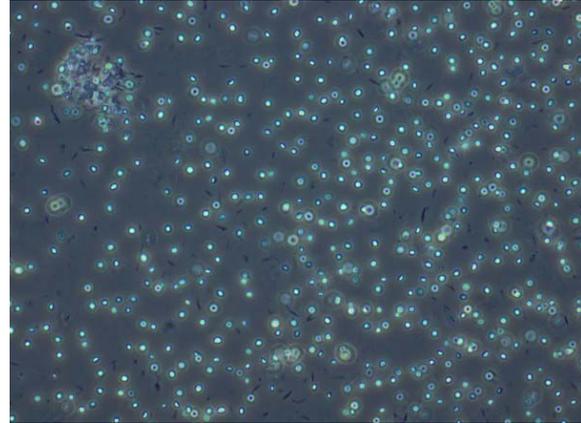
Nannochloropsis salina



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Nannochloropsis salina (bright field)



Nannochloropsis salina (phase contrast)

Version	10.2010
Species	<i>Nannochloropsis salina</i>
Class	Eustigmatophyceae
General description	green, spheroidally to light oval, very small micro algae
Size	length: 2-5 µm; wide: 70-100% of length
Ingredients	<p>Fatty acids: EPA and AA; content of EPA up to 40% of fatty acids (ZVI COHEN 1999) depending on culture conditions; any DHA; max. HUFA concentration at ca. 25°C; at other authors 8...16°C (ZVI COHEN 1999); optimal nitrogen supply increases HUFA part (ZVI COHEN 1999); part AA = 9,5%, EPA = 25,8% and DHA = 4,18% (CHAKRABORTY et al. 2007);</p> <p>Pigments: Chlorophyll a but not chlorophyll b or c, (ZVI COHEN 1999); β-Carotin, Violaxanthin, Zeaxanthin + Anthraxanthin (at strong lights) (ZVI COHEN 1999);</p> <p>Sugar: Glucose, Fucose, Galactose, Manose, Rhamnose, Ribose, Xylose, but any Arabinose; (ZVI COHEN 1999)</p> <p>Amino acid: less Methionin, Trpytophan, Cystin, Histidin, Hyroxylprolin, but high concentration of Aspartat, Glutamat, Prolin (ZVI COHEN 1999);</p>
Colour of culture	green-yellow; at N-P-lack yellow to orange
Effort of cultivation	low
Characteristic of cultivation	is growing fast and is able to overgrow other algae cultures; is sedimenting very bad; accept relative high concentration of pesticide DCMU (ZVI COHEN 1999);
Cultivation in	algae aquarium algae tube

	algae reactor
Lighting	fluorescen lights, energy saving lamps, daylight, different spectra possible day / night from 10:2 h12:12 H; at strong lighting protection pigments of VAZ cycle (Violaxanthin/Antheraxanthin/Zeaxanthin) are formed, but not of DT cycle (Diadinoxanthin/Diatoxanthin) (LOHR 2000);
Aeration / circulation	less ... strong extrem rigid against shear forces
CO ₂ fertilization	possibel (best grow) but not necessary (less effort)
Range of pH value	7.5 ... 8.5
Range of temperature	20 ... 25°C; below 10°C and over 38°C any growth (ZVI COHEN 1999)
Range of salinity	AquaCare is cultivating at 35/1000
Kind and concentration of medium	alage medium (16:1): 1 ... 100fach; for normal growth 10fold medium is best
Backup culture	Window seat culture: cool; dived and fill up with 10fold medium every some month, shaking daily; shaker culture: dived and fill up with 10fold medium every some month; refrigerator culture: wake up the culture very carefully: equal temperature for minimum 24 hours at diminished lights, after it dilute the culture carfully with 1fold medium
Suitable for	<i>Artemia</i> spec., all stages from nauplius to adultus <i>Brachionus</i> spec. SS- to L-type