

Table 1S. *In vitro* assessment of the health effect of microalgae and their components.

Species	Metabolites, extracts or biomass	Health effect	Culture Tissue	Ref.
<i>Ankistrodesmus convolutus</i>	Methanol Extract	Anti- Epstein-Barr virus	Three EBV-positive BL cell lines	139
<i>Aphanizomenon flos-aquae</i>	Water extract	Immunostimulatory	THP-1 human monocytes	140
<i>Arthrospira platensis</i>	Water extract Biomass	Antioxidant; Chemoprevention of cancer; Anticancer	Mouse fibroblast cells (3T3); Hepatocellular carcinoma cells (HepG2); Hela, Hep2 and Am8	141-143
<i>Chaetoceros</i> sp.	Fucoxanthin	Anticancer	Bronchopulmonary and epithelial cell lines (A549, NSCLC-N6 and SRA 01/04).	144
<i>Chaetoceros calcitrans</i>	Ethanol Extract	Anticancer	Human Breast Cancer Cell Line (MCF-7 and MCF-10A)	145
<i>Chlorella</i> sp.	Water Extract	Antimicrobial; Anticancer	Normal mouse fibroblasts (NIH3T3); Human breast adenocarcinoma (MCF7); Human lymphoblastoid leukemia (CEM); Human melanoma (G361);	146
<i>Chlorella vulgaris</i>	Peptide VECYGPNRPQF Carotenoids Glycoprotein Extract	Anticancer; Antioxidant	Human stomach cancer AGS cells; Human colon cancer cells (HCT-116); Mouse spleen-adherent cells (HEK 293); Hela, Hep2 and Am8	95, 147, 148, 143
<i>Chlorella ellipsoidea</i>	Violaxanthin antheraxanthin zeaxanthin	Antiproliferation cancer cells	Human colon cancer HCT116 cells; Human stomach AGS, breast MCF-7; Cervical HeLa; Colon DLD and liver Hep-G2 cancer cells	147, 149
<i>Chlorella stigmatophora</i>	Polysaccharides	Anti-inflammatory; Immunomodulatory	macrophages from the peritoneal cavity of BALB/c mice	85
<i>Cyanothece</i> spp. <i>Cyanospira capsulata</i>	Sulfated polysaccharide	Antibacterial	Kato III (a gastric adenocarcinoma cell line) and HeLa S3 cells (derived from a human epithelioid carcinoma)	150
<i>Cocconeis scutellum</i>	Diethyl ether and Buthanol Extract	Anticancer	Breast cancer BT20 cells	151
<i>Dunaliella salina</i>	β -carotene	Anticancer	Human prostate cancer cell line (PC-3)	152
<i>Odontella aurita</i> <i>Chaetoseros</i> sp <i>Isochrisys galbana</i>	Fucoxanthin	Anticancer	Bronchopulmonary A549, NSCLC-N6, and epithelial SRA 01/04 cells	144
<i>Gymnodinium</i> sp.	Extracellular D-galactan sulfate	Anticancer	Several cancer cell lines of breast, central nervous system, colon, lung, melanoma, ovary, kidney, and stomach	153

<i>Gyrodinium impudium</i>	Sulfated polysaccharide p-KG03	Antiviral against type A flu virus	Mardin–Darby canine kidney (MDCK) cells	75
<i>Haematococcus pluvialis</i>	Astaxanthin	Anticancer	Human colon HCT-116 SW480 carcinoma cells HT-29 WiDr human colon Adenocarcinoma cells	154
<i>Microcystis aeruginosa</i>	Water Extract	Anticancer	Hela, Hep2 and Am8	143
<i>Navicula incerta</i>	Peptides	Antifibrosis	Hepatic stellate cells LX-2	155
<i>Oscillatoria neglecta</i>	Water Extract	Anticancer	Hela, Hep2 and Am8	143
<i>Phaeodactylum tricornutum</i>	Polysaccharides	Anti-inflammatory; Immunomodulatory	Macrophages from the peritoneal cavity of BALB/c mice	85
<i>Porphyridium sp.</i>	Polysaccharides	Anti-inflammatory; Antiviral against herpes simplex virus types 1 and 2	Leucocyte Human dermal microvascular endothelial cells (HDMECs) Green monkey kidney cells	80 156
<i>Scenedesmus quadricauda</i>	Ethanol and Acetone Extracts	Haemagglutinating and antibiotic activities	Human A-, B-, and O-type erythrocytes Cow, pig, sheep erythrocytes	157
<i>Synechococcus elongatus</i>	Methanol Extract	Anti- Epstein-Barr virus	Three EBV-positive BL cell lines	139