

Appendix A

Table S1. Strain codes and isolation zone for bioprospecting microalgae.

Strain ID	Strain	Isolation Zone	¹ Sample Code
Phylum Dinophyta			
VGO626	<i>Akashiwo sanguinea</i>	Kavala Harbour, Greece	As-C / As-M
PA8V	<i>Alexandrium affine</i>	La Línea de la Concepción, Spain	Aa-C / Aa-M
VGO566	<i>Alexandrium catenella</i> TA	Puerto de Tarragona, Spain	Ac-C / Ac-M
VGO661	<i>Alexandrium margalefi</i>	Alfacs, Delta del Ebro, Spain	Am1-C / Am1-M
AL1V	<i>Alexandrium minutum</i>	Ría de Vigo, Spain	Am2-C / Am2-M
VGO956	<i>Alexandrium peruvianum</i>	Palamós, Gerona, Spain	Ap-C / Ap-M
CNRATAA1	<i>Alexandrium tamarense</i> ME	Mar Piccolo di Tarento, Puglia, Italy	At1-C / At1-M
PE1V	<i>Alexandrium tamarense</i> WE	Ría de Vigo, Spain	At2-C / At2-M
VGO1046	<i>Gambierdiscus australes</i>	Honolulu, Hawaii, USA	Ga-C / Ga-M
GY1VA	<i>Gymnodinium impudicum</i>	Puerto de Valencia, Spain	Gi-C / Gi-M
VGO1055	<i>Heterocapsa triquetra</i>	N.D.	Ht-C / Ht-M
VGO614	<i>Ostreopsis ovata</i>	Bahía de Abra, Madeira, Portugal	Oo-C / Oo-M
VGO776	<i>Prorocentrum arenarium</i>	Punta del Hidalgo, Tenerife, Spain	Pa-C / Pa-M
VGO834	<i>Prorocentrum cassubicum</i>	Almerimar, Almería, Spain	Pc-C / Pc-M
VGO1029	<i>Prorocentrum hoffmannianum</i> 1029	La Puntilla, Gran Canaria, Spain	Ph1-C / Ph1-M
VGO1030	<i>Prorocentrum hoffmannianum</i> 1030	La Puntilla, Gran Canaria, Spain	Ph2-C / Ph2-M
VGO1031	<i>Prorocentrum hoffmannianum</i> 1031	La Puntilla, Gran Canaria, Spain	Ph3-C / Ph3-M
VGO777	<i>Prorocentrum levis</i>	Punta del Hidalgo, Tenerife, Spain	Pl-C / Pl-M
PM1V	<i>Prorocentrum micans</i>	Ría de Vigo, Spain	Pm1-C / Pm1-M
AND1V	<i>Prorocentrum minimum</i>	Río San Pedro, Cádiz, Spain	Pm2-C / Pm2-M
PR1V	<i>Prorocentrum rostratum</i>	Ría de Vigo, Spain	Pr1-C / Pr1-M
VGO404	<i>Protoceratium reticulatum</i>	Salton Sea, California, USA	Pr2-C / Pr2-M
CCMP1720	<i>Protoceratium reticulatum</i>	Biscayne Bay, Miami, Florida, USA	Pr3-C / Pr3-M
S3V	<i>Scrippsiella trochoidea</i>	Ría de Vigo, Spain	St-C / --
Phylum Heterokontophyta			
VGO1039	<i>Chattonella subsalsa</i>	Bigelow CCMP Collection	Cs-C / Cs-M
VGO1038	<i>Chattonella verruculosa</i>	N.D.	Cv-C / Cv-M
VGO1043	<i>Fibrocapsa japonica</i>	Bigelow CCMP Collection	Fj-C / Fj-M
HA1V	<i>Heterosigma akashiwo</i>	Ría de Arousa, Spain	Ha-C / Ha-M
VGO1036	<i>Olisthodiscus luteus</i>	SCCAP Collection	OI-C / OI-M
Phylum Haptophyta			
EH02V	<i>Emiliania huxleyi</i>	Cabo Estai, Vigo, Spain	Pf-C / Pf-M
VGO1040	<i>Prymnesium</i>	N.D.	Ps1-C / Ps1-M
VGO557	<i>Prymnesium faveolatum</i>	Pixavaques, Gerona, Spain	Eh-C / Eh-M
Phylum Chlorophyta			
PY01V	<i>Pyramimonas</i> sp	Lorbé, A Coruña, Spain	Ps2-C / Ps2-M

¹Extract from biomass: species code-C. Extract from cell free culture medium: species code-M.

N.D.: No determined. CCMP: Center for Cultures of Marine Phytoplankton. SCCAP: Scandinavian Culture Collection for Algae and Protozoa.

Table S2. Anti-microbial, antiviral, anti-proliferative and apoptotic results for 65 extracts of marine microalgae. Results are expressed as a percentage effect compared to the untreated control. Extracts were tested at a final concentration of 100 µg/mL (antimicrobial, antiviral, and apoptotic) and 50 µg/mL (anti-proliferative). For clarity, color scale has been applied to highlight the differences in values.

Extract Code	Antimicrobial				Antiviral		Anti-Proliferative			Apoptotic
	<i>Enterococcus faecalis</i> (ATCC 29212)	<i>Escherichia coli</i> (ATCC 25922)	<i>Staphylococcus aureus</i> (ATCC 25923)	<i>Candida albicans</i> (ATCC 90028)	CHIKV replicon model	MCF-10A (breast cells)	LNCaP (prostate cancer cells)	MCF-7 (breast cancer cells)	PC-3 (prostate cancer cells)	HEPG-2 hepatocytes (% apopt cells)
As-C	0	6	-8	-15	60	2	9	4	0	24
As-M	2	3	-29	-5	0	7	8	4	1	30
Aa-C	-24	3	16	-3	51	5	16	5	9	19
Aa-M	-29	-2	-31	5	21	3	11	2	2	28
Ac-C	16	-19	-65	-77	8	6	13	0	3	35
Ac-M	4	7	-47	7	23	3	12	1	6	31
Am1-C	20	4	-24	-23	28	2	16	7	11	33
Am1-M	11	-2	-20	-11	68	4	14	11	18	30
Am2-C	10	-12	-207	-5	29	-2	-2	7	-2	43
Am2-M	8	6	-52	-11	52	3	3	4	4	81
Ap-C	26	-14	-28	-3	0	4	13	1	5	43
Ap-M	10	2	-48	23	4	3	8	0	2	31
At1-C	3	6	-108	-71	8	1	4	7	0	33
At1-M	0	6	-137	6	25	2	4	6	2	30
At2-C	-18	1	20	2	56	5	15	5	12	29
At2-M	-24	2	-34	-19	82	96	89	73	72	98
Ga-C	17	-20	30	5	NT	9	9	83	2	100
Ga-M	8	-14	8	23	NT	94	95	96	86	100
Gi-C	-14	4	-18	-17	0	2	13	3	4	37
Gi-M	-6	1	-35	-29	0	3	10	-1	1	13
Ht-C	3	7	-33	-23	0	2	14	0	4	39
Ht-M	-15	2	-30	-30	0	1	10	2	3	33

-200 -100 0 50 100

NT: No tested.

Table S2. Continuation.

Extract Code	Antimicrobial				Antiviral	Anti-Proliferative				Apoptotic
	<i>Enterococcus faecalis</i> (ATCC 29212)	<i>Escherichia coli</i> (ATCC 25922)	<i>Staphylococcus aureus</i> (ATCC 25923)	<i>Candida albicans</i> (ATCC 90028)	CHIKV replicon model	MCF-10A (breast cells)	LNCaP (prostate cancer cells)	MCF-7 (breast cancer cells)	PC-3 (prostate cancer cells)	HEPG-2 hepatocytes (% apopt cells)
Oo-C	-4	2	-117	-8	NT	5	9	2	3	40
Oo-M	-8	7	-126	-32	9	-1	1	7	-2	78
Pa-C	21	-11	3	60	NT	92	96	64	88	38
Pa-M	0	-3	11	6	NT	93	96	65	90	19
Pc-C	9	2	6	-36	0	-8	0	8	-3	22
Pc-M	-13	4	-14	50	NT	5	8	1	1	31
Ph1-C	3	3	7	-17	0	94	95	62	93	11
Ph1-M	7	9	25	-10	8	94	71	37	61	41
Ph2-C	12	-9	2	22	NT	94	95	67	94	63
Ph2-M	-4	5	-21	9	5	0	5	11	2	34
Ph3-C	15	-3	-179	14	89	96	96	67	85	73
Ph3-M	100	21	55	98	96	96	97	71	91	95
Pl-C	-5	-4	-3	-19	NT	3	8	3	2	13
Pl-M	-119	-8	2	-23	NT	4	29	3	30	36
Pm1-C	-2	3	10	-24	0	-8	-3	-2	-3	28
Pm1-M	3	8	8	4	0	-11	-6	-11	-5	27
Pm2-C	-8	4	-142	-14	27	-1	2	7	0	48
Pm2-M	-14	8	-65	0	21	-2	1	6	-2	60
Pr1-C	0	13	6	26	0	-11	3	5	0	16
Pr1-M	-8	8	12	-38	0	-11	2	1	-1	38
Pr2-C	0	6	1	6	NT	5	8	1	1	39
Pr2-M	-3	-11	37	-34	NT	8	10	1	2	56

-200 -100 0 50 100

NT. Not tested.

Table S2. Continuation.

Extract Code	Antimicrobial				Antiviral		Anti-Proliferative			Apoptotic
	<i>Enterococcus faecalis</i> (ATCC 29212)	<i>Escherichia coli</i> (ATCC 25922)	<i>Staphylococcus aureus</i> (ATCC 25923)	<i>Candida albicans</i> (ATCC 90028)	CHIKV replicon model	MCF-10A (breast cells)	LNCaP (prostate cancer cells)	MCF-7 (breast cancer cells)	PC-3 (prostate cancer cells)	HepG-2 hepatocytes (% apopt cells)
Pr3-C	-15	5	7	-16	NT	4	6	3	4	59
Pr3-M	-23	-8	-2	-12	NT	3	25	7	15	100
St-C	1	1	11	-17	0	-9	-3	-4	-4	25
Cs-C	2	-1	-2	-18	0	-1	11	2	-2	23
Cs-M	1	-1	-41	-18	7	0	4	2	1	9
Cv-C	4	-11	-133	-35	0	-1	-2	11	2	56
Cv-M	-9	6	-110	0	0	-1	2	9	-1	54
Fj-C	4	10	-141	-1	16	-2	0	12	0	37
Fj-M	-5	7	-105	5	9	-4	0	7	-2	33
Ha-C	3	-8	-186	1	1	0	1	11	0	47
Ha-M	5	7	-95	21	14	-3	1	8	-1	49
Ol-C	0	6	-50	-27	48	2	14	3	1	35
Ol-M	6	4	-41	-39	8	6	9	1	0	19
Pf-C	4	4	10	-11	0	-16	-1	8	0	19
Pf-M	4	6	6	-6	0	-15	-6	-2	-3	20
Ps1-C	-7	4	13	-50	0	-12	-4	1	-4	23
Ps1-M	-1	5	12	12	0	-15	-9	-4	-6	25
Eh-C	3	7	7	-15	0	-10	-2	-5	-3	25
Eh-M	8	6	11	-14	0	-9	0	-9	-3	14
Ps2-C	-107	6	2	-24	NT	6	9	1	1	35
Ps2-M	13	3	3	-75	5	-11	-4	2	-2	17

-200 -100 0 50 100

NT: Not tested.