

Water

Salt tolerance and desalination abilities of nine common green microalgae isolates

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Table s1 Dry weights of biomasses collected on the 14th day from the differently treated cultures of the studied strains. Mean values and standard deviations are plotted (n=3).

Dry mass (mg L ⁻¹)	CSOR	CVUL	CHLO	DCOM	DSPI	SOBL	SOBT	MKOM	MPUS
Control	380.0±11.3 ^a	457.7±6.4 ^a	625.3±32.3 ^b	354.7±86.6 ^c	584.0±8.0 ^b	508.7±59.9 ^{a,b}	534.0±29.1 ^{a,b}	374.0±2.0 ^{a,c}	532.0±2.0 ^{a,b}
500	-	-	533.3±107.8 ^a	438.0±130.4 ^a	578.0±38.0 ^a	570.0±77.5 ^a	533.3±143.7 ^a	350.0±20.0 ^a	490.0±20.0 ^a
1 000	-	-	598.7±41.0 ^a	536.0±89.0 ^a	540.0±8.0 ^a	470.0±55.5 ^a	563.3±54.9 ^a	318.0±26.0 ^b	478.0±26.0 ^a
5 000	-	-	552.0±87.7 ^a	315.3±59.5 ^b	430.0±90.0 ^a	410.7±58.5 ^a	488.0±40.6 ^a	225.0±47.0 ^{*b}	414.0±47.0 ^a
10 000	480.0±50.9 ^{*a}	308.7±28.9 ^{*b}	578.0±35.4 ^a	507.3±36.0 ^a	406.0±24.0 ^{*a,b}	338.0±44.5 ^{*b}	462.7±3.1 ^a	206.0±64.0 ^{*b}	480.0±64.0 ^a
15 000	435.0±41.0 ^a	335.7±23.7 ^{*b}	-	-	-	-	-	-	-
20 000	503.0±15.6 ^{*a}	329.0±8.7 ^{*b}	-	-	-	-	-	-	-

CSOR: *Chlorella sorokiniana*; CVUL: *Chlorella vulgaris*; CHLO: *Chlorococcum* sp.; DCOM: *Desmodesmus communis*; DSPI: *Desmodesmus spinosus*; SOBL: *Scenedesmus obliquus*; SOBT *Scenedesmus obtusus*; MKOM: *Monoraphidium komarkove* and MPUS: *Monoraphidium pusillum*

Asterisks indicate significant differences among the differently treated cultures of a species (columns; p<0.05)

Different lowercase letters indicate significant differences among the different isolates within the same treatment (rows; p<0.05)

Table s2 Conductivity values ($\mu\text{S}/\text{cm}$) measured at the start (day 0) and at the end (day 14) of the experiments. Mean values and standard deviations are plotted (n=3).

Cond. ($\mu\text{S}/\text{cm}$)	CSOR		CVUL		CHLO		DCOM		DSPI		SOBL		SOBT		MKOM		MPUS	
	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14
Control	727.0 ± 1.0	645.0 ± 2.0	742.5 ± 16.5	663.5 ± 20.5	785.3 ± 11.0	532.7 ± 31.1	818.3 ± 13.0	682.7 ± 129.6	759.0 ± 11.0	646.7 ± 0.6	778.0 ± 8.7	663.3 ± 87.0	778.0 ± 8.7	632.7 ± 48.3	751.3 ± 6.7	679.3 ± 28.3	747.0 ± 7.0	691.0 ± 28.0
500	-	-	-	-	1758.3 ± 73.3	1226.7 ± 52.4	1756.3 ± 117.4	1399.7 ± 196.0	1780.3 ± 29.5	1299.0 ± 41.0	1784.0 ± 8.7	1387.0 ± 101.5	1784.0 ± 8.7	1399.3 ± 107.3	1767.0 ± 13.9	1361.7 ± 53.0	1774.0 ± 14.0	1347.0 ± 53.0
1 000	-	-	-	-	2830.0 ± 0.0	2041.0 ± 16.0	2970.0 ± 620.0	2076.7 ± 160.0	3045.0 ± 265.0	2153.3 ± 96.5	2723.3 ± 11.5	2012.3 ± 273.1	2723.3 ± 11.5	2076.3 ± 327.7	2770.0 ± 26.5	2102.0 ± 246.8	2790.0 ± 26.0	2200.0 ± 247.0
5 000	-	-	-	-	10063.3 ± 248.3	7666.7 ± 186.1	10970.0 ± 2670.9	7396.7 ± 1016.2	12465.0 ± 2175.0	7420.0 ± 710.0	8430.0 ± 193.1	7770.0 ± 364.4	10540.0 ± 327.4	7770.0 ± 346.4	10286.7 ± 225.0	8206.7 ± 490.3	10510.0 ± 225.0	8280.0 ± 490.0
10 000	18585.0 ± 55.0	14870.0 ± 340.0	18760.0 ± 230.0	15465.0 ± 935.0	18423.3 ± 525.4	13895.0 ± 525.0	18080.0 ± 1888.7	12753.3 ± 620.7	24605.0 ± 5395.0	15295.0 ± 655.0	16100.0 ± 0.0	15656.7 ± 126.6	18433.3 ± 577.4	16193.3 ± 373.1	19063.3 ± 127.0	14983.3 ± 592.0	18990.0 ± 127.0	14780.0 ± 592.0
15 000	27360.0 ± 60.0	21100.0 ± 300.0	27500.0 ± 200.0	22250.0 ± 1450.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 000	35190.0 ± 10.0	27400.0 ± 1600.0	36000.0 ± 800.0	27950.0 ± 2150.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Explanation of four letter codes for species names see in footnotes for Supplementary Table 1

Bold numbers indicate when there was significant difference between 0 and 14 day values

Table s3 Chloride content values (mg L^{-1}) measured at the start (day 0) and at the end (day 14) of the experiments. Mean values and standard deviations are plotted (n=3).

Cl^- (mg L^{-1})	CSOR		CVUL		CHLO		DCOM		DSPI		SOBL		SOBT		MKOM		MPUS	
	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14
Control	28.2 ± 1.5	24.8 ± 0.2	28.6 ± 3.1	24.4 ± 1.8	27.1 ± 0.2	16.5 ± 2.7	28.9 ± 10.7	22.1 ± 7.4	30.6 ± 2.2	24.3 ± 1.7	26.4 ± 2.7	25.7 ± 2.6	28.3 ± 5.3	23.6 ± 6.6	23.1 ± 4.8	12.8 ± 1.5	27.2 ± 2.8	21.7 ± 2.5
500	-	-	-	-	336.0 ± 18.9	253.6 ± 12.7	283.1 ± 44.4	260.4 ± 22.7	328.3 ± 3.5	236.7 ± 6.7	334.2 ± 4.2	255.9 ± 21.3	334.2 ± 4.2	267.5 ± 31.7	352.4 ± 18.4	266.5 ± 18.1	331.3 ± 11.5	243.0 ± 12.7
1 000	-	-	-	-	651.2 ± 22.0	494.1 ± 3.9	571.4 ± 57.3	501.0 ± 32.3	621.8 ± 12.0	463.7 ± 34.1	615.0 ± 38.8	439.5 ± 70.0	612.0 ± 38.8	507.6 ± 52.3	654.7 ± 20.2	500.5 ± 65.1	634.0 ± 16.5	494.0 ± 60.8
5 000	-	-	-	-	3122.7 ± 108.3	2420.6 ± 88.6	2707.8 ± 433.6	2343.9 ± 312.6	2990.0 ± 70.6	2127.4 ± 198.8	2602.0 ± 793.5	1538.5 ± 305.2	2602.0 ± 793.5	1779.0 ± 510.0	3017.0 ± 300.5	2433.9 ± 165.0	3060.5 ± 309.1	2752.1 ± 108.8
10 000	6043.5 ± 45.0	4430.0 ± 60.1	6100.9 ± 309.6	4760.9 ± 37.7	6102.7 ± 18.5	4958.5 ± 115.4	5637.4 ± 247.5	4749.3 ± 174.0	5404.3 ± 617.0	4480.2 ± 481.1	5907.5 ± 320.0	4525.9 ± 280.7	5907.5 ± 320.0	4690.0 ± 494.2	6081.7 ± 90.4	4805.1 ± 238.5	6092.6 ± 90.4	4611.1 ± 241.0
15 000	9164.5 ± 65.0	6546.7 ± 37.3	9125.3 ± 364.2	6945.1 ± 78.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 000	12298.2 ± 75.4	8755.3 ± 404.0	12158.2 ± 0.8	8876.8 ± 275.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Explanation of four letter codes for species names see in footnotes for Supplementary Table 1

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Table s4 Nitrate content values (mg L⁻¹) measured at the start (day 0) and at the end (day 14) of the experiments. Mean values and standard deviations are plotted (n=3).

NO ₃ ⁻ (mg L ⁻¹)	CSOR		CVUL		CHLO		DCOM		DSPI		SOBL		SOBT		MKOM		MPUS	
	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14
Control	182.5 ±0.6	9.5 ±1.9	181.7 ±0.9	0.3 ±0.3	179.4 ±13.4	6.2 ±1.3	201.5 ±22.3	30.4 ±7.6	182.7 ±0.7	16.3 ±0.4	179.1 ±6.5	36.3 ±5.8	185.5 ±3.3	49.0 ±13.8	177.4 ±15.1	41.0 ±7.1	172.0 ±24.2	19.2 ±7.7
500	-	-	-	-	206.1 ±35.0	12.5 ±5.3	214.3 ±35.5	23.7 ±3.5	182.1 ±0.4	30.8 ±0.2	177.2 ±4.3	41.8 ±3.2	183.1 ±3.5	53.8 ±11.3	190.6 ±9.5	59.2 ±17.3	192.4 ±9.5	26.0 ±6.6
1 000	-	-	-	-	201.9 ±27.6	19.2 ±1.2	241.4 ±54.1	33.1 ±5.5	182.4 ±1.2	40.1 ±1.7	172.5 ±12.1	32.5 ±5.6	189.3 ±18.3	54.8 ±10.5	178.3 ±8.4	84.7 ±20.2	170.4 ±11.6	29.4 ±8.3
5 000	-	-	-	-	178.8 ±13.2	16.4 ±12.1	190.6 ±7.9	53.3 ±11.6	182.5 ±0.8	31.1 ±1.2	192.8 ±8.6	58.1 ±33.1	179.7 ±3.2	87.2 ±23.6	186.3 ±24.0	110.5 ±6.7	182.9 ±28.9	70.8 ±8.2
10 000	182.5 ±8.1	21.3 ±1.1	169.4 ±11.4	5.8 ±0.3	189.9 ±6.8	36.7 ±1.1	202.2 ±21.6	57.2 ±10.1	182.4 ±0.0	74.6 ±0.4	196.6 ±12.5	84.4 ±19.9	180.9 ±14.6	103.2 ±33.8	173.8 ±16.2	109.7 ±11.4	171.4 ±20.3	72.4 ±2.3
15 000	182.8 ±0.9	56.7 ±4.2	181.5 ±1.2	9.0 ±5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 000	185.8 ±0.9	51.1 ±1.7	171.2 ±11.00	14.5 ±1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table s5 Phosphate content values (mg L⁻¹) measured at the start (day 0) and at the end (day 14) of the experiments. Mean values and standard deviations are plotted (n=3).

PO ₄ ³⁻ (mg L ⁻¹)	CSOR		CVUL		CHLO		DCOM		DSPI		SOBL		SOBT		MKOM		MPUS	
	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14	0	14
Control	163.7 ±0.4	146.6 ±0.3	160.9 ±2.6	159.2 ±3.9	181.1 ±16.1	159.5 ±17.7	157.3 ±6.9	150.9 ±3.2	163.4 ±3.5	142.0 ±1.8	156.2 ±6.3	149.3 ±2.2	179.1 ±13.9	174.9 ±15.9	157.7 ±6.5	152.6 ±6.2	162.5 ±1.4	155.1 ±3.3
500	-	-	-	-	183.1 ±18.6	165.0 ±22.9	167.4 ±3.5	161.0 ±1.5	163.1 ±1.7	154.9 ±0.8	156.6 ±9.1	149.4 ±5.4	160.1 ±8.9	151.9 ±6.4	164.0 ±1.7	161.3 ±1.2	158.2 ±8.8	153.9 ±9.6
1 000	-	-	-	-	197.6 ±30.1	179.9 ±29.8	174.5 ±11.5	149.1 ±11.4	162.2 ±1.0	154.2 ±1.1	161.3 ±2.0	154.9 ±1.2	172.7 ±14.8	158.5 ±13.9	164.1 ±0.7	158.1 ±4.3	155.3 ±5.7	152.1 ±5.8
5 000	-	-	-	-	189.8 ±27.8	177.3 ±27.9	156.1 ±7.2	136.9 ±8.0	161.8 ±2.8	149.8 ±3.5	159.8 ±7.3	150.6 ±2.8	162.9 ±1.9	155.4 ±2.1	159.9 ±6.3	154.5 ±1.9	160.1 ±0.8	152.7 ±6.6
10 000	164.0 ±7.3	147.9 ±5.2	151.2 ±12.3	148.2 ±9.5	181.6 ±16.7	171.1 ±17.0	166.7 ±0.2	149.7 ±3.1	162.3 ±1.1	149.3 ±0.1	164.6 ±2.8	162.2 ±1.3	168.4 ±6.5	159.3 ±5.4	163.9 ±3.7	155.1 ±4.8	163.9 ±1.8	162.4 ±2.1
15 000	164.0 ±0.7	144.2 ±1.5	162.1 ±1.1	158.6 ±3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20 000	163.7 ±5.2	146.7 ±5.1	154.1 ±9.3	150.4 ±9.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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