Phosphatidylinositol-5-Phosphate-4-Kinase-2-β (PI5P4K-2β) gene upregulation as early response to hyperosmotic stress in *Argopecten purpuratus*

Supplementary material

Table S1: Physical-chemical parameters of the brine obtained on June 6, 2016, from the Coloso I desalination plant at Minera Escondida, Antofagasta, Chile.

Time	Temp. (°C)	ms/cm	TDS (mg/L)	Salinity (g/L)	OD (mg/L)	pH	ORP
16:30	15.86	72.50	57.09	62.20	5.81	7.60	246.2
17:30	15.80	72.46	57.14	62.26	6.59	7.73	245.4
18:30	15.74	57.20	45.17	47.50	8.16	7.72	250.4
19:30	16.16	71.99	56.32	61.24	7.07	7.69	253.8
20:30	15.49	64.96	51.61	55.33	7.39	7.64	259.2
21:30	15.57	69.19	54.86	59.37	7.31	7.64	261.9
22:30	15.98	66.15	51.95	55.79	7.73	7.71	261.4
23:30	16.27	71.87	56.06	60.92	7.13	7.73	262.8
0:30	15.67	66.96	52.96	57.00	7.87	7.70	260.6
1:30	15.97	72.66	57.07	62.18	7.45	7.75	258.7
2:30	15.97	67.71	53.19	57.31	8.11	7.71	261.8
3:30	16.18	71.78	56.11	60.99	7.82	7.69	264.4
4:30	16.01	72.46	56.87	61.94	7.76	7.67	267.5
5:30	15.94	69.08	54.30	58.70	8.33	7.66	269.5
6:30	15.62	57.70	45.69	48.12	8.60	7.71	268.2

	7:30	15.50	56.87	45.16	47.48	9.09	7.66	269.0
	8:30	15.61	58.55	46.38	48.93	9.25	7.68	270.3
	9:30	15.53	57.90	45.94	48.42	9.49	7.69	266.4
Container 1	Final mix	15.46	67.36	53.53	57.70	8.41	7.82	267.8
Container 2	Final mix	15.44	67.35	53.56	57.75	8.32	7.83	270.4
Container 3	Final mix	15.42	67.30	53.54	57.76	8.28	7.83	272.1
Container 4	Final mix	15.46	67.38	53.56	57.73	8.30	7.83	273.5
Container 5	Final mix	15.45	67.54	53.70	57.91	8.22	7.83	273.9
General Mean Brine		**15.45**	**67.39**	**53.58**	**57.77**	**8.31**	**7.83**	**271.5**

Table S2: List of genes proposed by Meng (Meng et al., 2013) for *C. gigas* responding to hyperosmotic stress, evaluated in *A. purpuratus* in this work.

Genes	**EC Number**	**Oligonucleotide sequences**
Cysteine sulfinic acid decarboxylase	EC.4.1.1.29	F: 5´-CAATGCTGCCTACCTGTTCC-3’ R: 5´-CAAAGCCCTGATCTCCCTTG-3’
Taurine transporter	TAUT	F: 5´-CTCCCTGGAAAGGCAAAGTCT-3’ R: 5´-GCTTTGTGAATGGCATCTTGAA-3’
Serine Hydromethyl Transferase	EC.2.1.2.1	F: 5´-AAGGTCAGCCAGGCCAAAG-3’ R: 5´-CCATTCTTCAGGGGACAACC-3’

Δ-1-pyrroline-5-carbo xylate reductase	EC.1.5.1.2	F: 5′-CTGGACGCTGTGACGGGACT-3’ R: 5′-TCTGGGCGGCTAATTTTGTG-3’
Carnosine synthetase	EC.6.3.2.11	F: 5′-TGCCATCTTGTCTGCCAAAGG-3’ R: 5′-GCACGCACATGACTCCCATC-3’

Table S3. Oligonucleotides designed in this work to identify putative genes involved in osmoregulation in *A. purpuratus*, using as reference the sequences obtained from *C. gigas* (Meng et al., 2013).

Genes	**Oligonucleotide sequences (5’ – 3’)**
SHT	F: CAGTTCAACARTGTYTDGG R: CTCTAGATGTCATTGSTGGDG
aP5Cr	F: GAAAAAGATAGACARATGARHG R: TCTAGATGTCATTGSTGGDG
AGT	F: GTCATCCGAAGGTGACAGAAA R: GGCTAGCAAGGCAAGTCTATTA
SS	F: GAGGATTCTAARTGGCARRA R: TACCAGAACRTTWCCRAA
CS)	F: TGTCAACTATWYGAATTYAT R: GATTTCTGTACAACAYTGAT
CSAD-1	F: AGATGGAATGTTYTGTCCAGG R: TGATGATCATTCKRAARAA
CSAD-2	F: ACATATATGATGDCHGGAA R: CGATTTCTGTACAACAYTGAT
TT	F: CTGGGAAACGTGTGGAGATT R: GAAGTTGCTCACAGGGTACAT