

**Table S1** Average threshold cycle (Ct) values from qRT-PCR for cell proliferation, multipotency and control genes in sea urchin tissues (ALM- Aristotle’s lantern muscle, ES- esophagus, RN - radial nerve, Coel - coelomocytes, TF - tube feet and spines. Values are Ct  $\pm$  SEM (n=10 for all tissues except spines which are n=3 for Sp and n=6 for Lv).

**A – *S. purpuratus***

	<b>ALM</b>	<b>ES</b>	<b>RN</b>	<b>Coel</b>	<b>TF</b>	<b>Spines</b>
<i>pcna</i>	23.5 $\pm$ 0.2	23.1 $\pm$ 0.2	24.0 $\pm$ 0.2	23.8 $\pm$ 0.4	23.7 $\pm$ 0.4	23.0 $\pm$ 0.1
<i>tert</i>	26.4 $\pm$ 0.2	27.2 $\pm$ 0.2	27.9 $\pm$ 0.2	28.2 $\pm$ 0.2	28.9 $\pm$ 0.5	28.9 $\pm$ 0.3
<i>vasa</i>	24.9 $\pm$ 0.4	25.6 $\pm$ 0.1	26.7 $\pm$ 0.4	24.9 $\pm$ 0.3	25.8 $\pm$ 0.4	26.1 $\pm$ 0.1
<i>seawi</i>	24.7 $\pm$ 0.3	25.1 $\pm$ 0.1	26.2 $\pm$ 0.4	25.2 $\pm$ 0.3	26.5 $\pm$ 0.7	26.5 $\pm$ 0.1
<i>actin</i>	10.6 $\pm$ 0.3	16.9 $\pm$ 0.1	17.4 $\pm$ 0.8	22.4 $\pm$ 0.3	16.5 $\pm$ 0.5	ND
<i>profilin</i>	18.2 $\pm$ 0.3	19.2 $\pm$ 0.2	20.2 $\pm$ 0.3	19.1 $\pm$ 0.3	19.0 $\pm$ 0.5	18.1 $\pm$ 0.1
<i>cyclophilin</i>	17.4 $\pm$ 0.4	17.1 $\pm$ 0.2	18.8 $\pm$ 0.3	18.8 $\pm$ 0.4	18.4 $\pm$ 0.4	18.1 $\pm$ 0.5
<i>RPL8</i>	18.8 $\pm$ 0.2	17.2 $\pm$ 0.2	18.8 $\pm$ 0.2	17.4 $\pm$ 0.4	18.6 $\pm$ 0.4	19.0 $\pm$ 0.3
<i>ubiquitin</i>	17.6 $\pm$ 0.3	18.5 $\pm$ 0.3	18.5 $\pm$ 0.5	18.4 $\pm$ 0.4	21.0 $\pm$ 0.5	19.3 $\pm$ 0.5

**B – *L. variegatus***

	<b>ALM</b>	<b>ES</b>	<b>RN</b>	<b>Coel</b>	<b>TF</b>	<b>Spines</b>
<i>pcna</i>	24.9 $\pm$ 0.2	26.2 $\pm$ 0.4	26.0 $\pm$ 0.7	26.4 $\pm$ 0.6	25.8 $\pm$ 0.2	26.3 $\pm$ 0.4
<i>tert</i>	25.9 $\pm$ 0.3	27.6 $\pm$ 0.2	29.0 $\pm$ 0.4	28.9 $\pm$ 0.4	30.1 $\pm$ 0.2	29.5 $\pm$ 0.4
<i>vasa</i>	26.1 $\pm$ 0.2	27.2 $\pm$ 0.2	29.6 $\pm$ 0.5	29.2 $\pm$ 0.5	25.4 $\pm$ 0.1	25.2 $\pm$ 0.1
<i>seawi</i>	25.6 $\pm$ 0.2	26.9 $\pm$ 0.2	28.6 $\pm$ 0.4	28.1 $\pm$ 0.5	28.3 $\pm$ 0.4	24.5 $\pm$ 0.2
<i>actin</i>	ND	ND	ND	ND	18.7 $\pm$ 0.2	31.9 $\pm$ 0.6
<i>profilin</i>	20.4 $\pm$ 0.1	22.4 $\pm$ 0.1	23.8 $\pm$ 0.6	24.1 $\pm$ 0.6	24.9 $\pm$ 0.1	22.5 $\pm$ 0.2
<i>cyclophilin</i>	19.6 $\pm$ 0.2	18.0 $\pm$ 0.2	21.2 $\pm$ 0.6	20.6 $\pm$ 0.6	23.2 $\pm$ 0.4	19.7 $\pm$ 0.1
<i>RPL8</i>	18.2 $\pm$ 0.2	19.0 $\pm$ 0.3	21.8 $\pm$ 0.9	23.2 $\pm$ 0.8	20.5 $\pm$ 0.2	19.7 $\pm$ 0.1
<i>ubiquitin</i>	13.7 $\pm$ 0.1	15.0 $\pm$ 0.1	19.5 $\pm$ 0.5	19.0 $\pm$ 0.5	20.0 $\pm$ 0.4	17.4 $\pm$ 0.1
<i>gapdh</i>	22.4 $\pm$ 0.4	23.8 $\pm$ 0.6		27.0 $\pm$ 1.1		

**C – *M. franciscanus***

	<b>ALM</b>	<b>ES</b>	<b>RN</b>
<i>pcna</i>	25.4 $\pm$ 0.2	25.2 $\pm$ 0.4	24.6 $\pm$ 0.5
<i>tert</i>	27.0 $\pm$ 0.2	27.6 $\pm$ 0.1	27.7 $\pm$ 0.3
<i>vasa</i>	25.0 $\pm$ 0.2	26.3 $\pm$ 0.1	26.1 $\pm$ 0.4
<i>seawi</i>	24.4 $\pm$ 0.1	26.0 $\pm$ 0.2	26.0 $\pm$ 0.2
<i>actin</i>	12.2 $\pm$ 0.3	17.0 $\pm$ 0.2	16.2 $\pm$ 1.2
<i>profilin</i>	25.9 $\pm$ 0.2	26.8 $\pm$ 0.2	26.9 $\pm$ 0.4
<i>cyclophilin</i>	21.5 $\pm$ 0.2	22.3 $\pm$ 0.2	21.0 $\pm$ 0.5
<i>RPL8</i>	20.2 $\pm$ 0.1	20.3 $\pm$ 0.1	20.8 $\pm$ 0.4
<i>ubiquitin</i>	18.7 $\pm$ 0.2	19.9 $\pm$ 0.2	20.6 $\pm$ 0.3