

**Table S2. Primary data and statistical analysis for regeneration assays**

Experiment	<i>n</i>	Regeneration Index			Statistical test	Statistics		<i>P</i>
		Control	Treated	Treated/control				
Regeneration in concanamycin	226	216	49	23%	MWU	U=11,628	Z=11.357	$P \ll 0.001$
PMA-expressing regeneration in concanamycin	127	75	226	301%	KW+DQ	H=81.486	Q=4.672	$P < 0.01$
Regeneration in palytoxin	81	187	144	77%	MWU	U=990.5	Z=2.926	$P = 0.002$
YCHE78-expressing regeneration	66	265	194	73%	KW+DQ	H=100.232	Q=3.556	$P < 0.01$
PMA-expressing regeneration of refractory tail	103	15	42	280%	MWU	U=1638.5	Z=13.005	$P \ll 0.001$

Effect of the different treatments on tail regeneration expressed as a 'Regeneration Index' (RI) computed for each dish of embryos. Statistical analysis was performed on the distribution of raw counts of embryos falling in each category of degree of regeneration (see Materials and methods). The effect of palytoxin shown is relatively mild because we used a very low dose of this potent drug. The effect could be significantly strengthened, but only at the expense of generalized toxicity.

MWU, Mann-Whitney U test.

KW, Kruskal-Wallis test.

DQ, Dunn's Q test.