

Table S1 Symbiotic cnidarian species searched for SLL-2 homologs

	Species	References
Reef-building corals	<i>Acropora digitifera</i>	Shinzato et al. (2011)
	<i>Acropora tenuis</i>	Voolstra et al. (2015)
	<i>Fungia spp.</i>	Voolstra et al. (2015)
	<i>Galaxea fascicularis</i>	Voolstra et al. (2015)
	<i>Goniastrea aspera</i>	Voolstra et al. (2015)
	<i>Pocillopora damicornis</i>	Cunning et al. (2018)
	<i>Pocillopora verrucosa</i>	Buitrago-Lopez et al. (2020)
	<i>Porites lutea</i>	Voolstra et al. (2015)
	<i>Stylophora pistillata</i>	Voolstra et al. (2017)
Corallimorpharia	<i>Amplexidiscus fenestrafer</i>	Wang et al. (2017)
	<i>Discosoma sp.</i>	Wang et al. (2017)
Sea anemones	<i>Actinia equina</i>	Wilding et al. (2020)
	<i>Actinia tenebrosa</i>	van der Burg et al. (2016)
	<i>Aiptasia pallida</i>	Baumgarten et al. (2015)
	<i>Anthopleura buddemeieri</i>	van der Burg et al. (2016)
	<i>Aulactinia veratra</i>	van der Burg et al. (2016)
	<i>Calliactis polypus</i>	van der Burg et al. (2016)
	<i>Nemanthus annamensis</i>	van der Burg et al. (2016)
	<i>Telmatostichus sp.C</i>	van der Burg et al. (2016)

Baumgarten, S., Simakov, O., Esherick, L.Y., Liew, Y.J., Lehnert, E.M., Michell, C.T., Li, Y., Hambleton, E.A., Guse, A., Oates, M.E., *et al.* (2015). The genome of Aiptasia, a sea anemone model for coral symbiosis. Proc Natl Acad Sci U S A 112, 11893-11898.

Buitrago-Lopez, C., Mariappan, K.G., Cardenas, A., Gegner, H.M., and Voolstra, C.R. (2020). The Genome of the Cauliflower Coral Pocillopora verrucosa. Genome Biol Evol 12, 1911-1917.

Cunning, R., Bay, R.A., Gillette, P., Baker, A.C., and Traylor-Knowles, N. (2018). Comparative analysis of the Pocillopora damicornis genome highlights role of immune system in coral evolution. Sci Rep 8, 16134.

Shinzato, C., Shoguchi, E., Kawashima, T., Hamada, M., Hisata, K., Tanaka, M., Fujie, M., Fujiwara, M., Koyanagi, R., Ikuta, T., *et al.* (2011). Using the Acropora digitifera genome to understand coral responses to environmental change. Nature 476, 320-323.

van der Burg, C.A., Prentis, P.J., Surm, J.M., and Pavasovic, A. (2016). Insights into the innate immunome of actiniarians using a comparative genomic approach. Bmc Genomics 17.

Voolstra, C.R., Li, Y., Liew, Y.J., Baumgarten, S., Zoccola, D., Flot, J.F., Tambutte, S., Allemand, D., and Aranda, M. (2017). Comparative analysis of the genomes of Stylophora pistillata and Acropora digitifera provides evidence for extensive differences between species of corals. Sci Rep 7, 17583.

Voolstra, C.R., Miller, D.J., Ragan, M.A., Hoffmann, A.A., Hoegh-Guldberg, O., Bourne, D.G., Ball, E.E., Ying, H., Foret, S., Takahashi, S., *et al.* (2015). The ReFuGe 2020 Consortium-using "omics" approaches to explore the adaptability and resilience of coral holobionts to environmental change. Front Mar Sci 2.

Wang, X., Liew, Y.J., Li, Y., Zoccola, D., Tambutte, S., and Aranda, M. (2017). Draft genomes of the corallimorpharians Amplexidiscus fenestrafer and Discosoma sp. Mol Ecol Resour 17, e187-e195.

Wilding, C.S., Fletcher, N., Smith, E.K., Prentis, P., Weedall, G.D., and Stewart, Z. (2020). The genome of the sea anemone *Actinia equina* (L.): Meiotic toolkit genes and the question of sexual reproduction. Mar Genomics 53, 100753.

Table S2 Chemical composition of stock solutions in f/2 medium

Chemicals	Concentrations
1. Nitrate stock (1,000 x)	
NaNO ₃	75 g/L
2. Na₂EDTA stock (1,000 x)	
Na ₂ EDTA·2H ₂ O	4.36 g/L
3. Trace metals stock (10,000 x)	
CuSO ₄ ·5H ₂ O	100 mg/L
ZnSO ₄ ·7H ₂ O	220 mg/L
CoCl ₂ ·6H ₂ O	100 mg/L
MnCl ₂ ·4H ₂ O	1.8 g/L
Na ₂ MoO ₄ ·2H ₂ O	60 mg/L
4. Iron stock (1,000 x)	
FeCl ₃ ·6H ₂ O	3.15 g/L
5. Phosphate stock (1,000 x)	
NaH ₂ PO ₄	4.411 g/L
6. Vitamins stock (100,000 x)	
Biotin	500 mg/L
Vitamin	B12 500 mg/L
Thiamine HCl	10 g/L

Table S3 Set-up of nutrient stress subcultures