

**Supplementary Table 1.** Availability of molecular tools across Porifera classes.

Class	Species	Long- term laboratory cultivation	Embryonic development studies	Regeneration studies	Genome	Transcriptome	Single-cell transcriptomes	Immunolocalization	<i>In situ</i> hybridization	Pharmacological assay	Transfection	RNAi	References
Calcarea	<i>Sycon ciliatum</i>	–	●	○	●	●	×	×	●	×	×	×	[1–7]
	<i>Leucosolenia complicata</i>	–	●	●	●	●	×	×	●	×	×	×	[4,6,8–16]
	<i>Leucosolenia cf. variabilis</i>	±	○	●	○	○	×	●	○	○	×	×	[17,18]
Homoscleromorpha	<i>Oscarella lobularis</i>	±	●	●	○	●	○	●	●	●	○	×	[19–28]
	<i>Oscarella pearsei</i>	–	○	○	●	●	×	●	×	×	×	×	[29–31]
	<i>Amphimedon queenslandica</i>	±	●	×	●	●	●	●	●	●	○	×	[7,22,26,32–42]
Demospongiae	<i>Ephydatia fluviatilis</i>	±	●	●	×	●	●	×	●	●	×	×	[43–51]
	<i>Ephydatia muelleri</i>	±	×	×	●	●	×	●	●	●	●	●	[52–60]
	<i>Spongilla lacustris</i>	±	●	●	×	●	×	●	×	●	●	×	[43,61–67]
	<i>Halisarca caerulea</i>	±	×	●	×	●	×	●	×	×	×	×	[68,69]
	<i>Halisarca dujardinii</i>	±	●	●	○	●	×	●	●	○	×	×	[70–82]
	<i>Tethya wilhelma</i>	+	×	×	●	●	×	×	×	×	●	●	[58,83]
	<i>Suberites domuncula</i>	+	×	●	×	×	×	×	×	●	●	×	[84–86]
Hexactinellida	<i>Aphrocallistes vastus</i>	–	×	×	×	●	×	×	×	×	×	×	[61,62,87]
	<i>Oopsacas minuta</i>	–	●	×	×	●	×	×	×	×	×	×	[87–90]

Long-term laboratory cultivation: + available, ± restrictedly available, – unavailable. Developmental data and molecular tools: ● available, ○ in progress, × unavailable.

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