Table S1. Metabolites and their relevant information

Metabolite	Properties	References
2-Aminopimelic acid	- forms lysine and contributes to cell wall structure in bacteria. - involved in plant morphogenesis. - likely associated with the cnidarian microbiome or translocated from the symbionts.	(Berges et al., 1986; Valmaseda et al., 2005; Tabeta and Hirai, 2024)
2-Hydroxyglutaric acid	- high levels in humans are associated with metabolic disorders. - metabolite is differentially expressed in Aiptasia colonised with different symbiont types. - implications for T-cell differentiation.	(Tyrakis et al., 2016; Yamada et al., 2019; Du and Hu, 2021 Lust, 2022; Tsang Min Ching et al., 2022)
3-Aminoglutaric acid	- the precursor of glutamine synthase which is important for nitrogen assimilation, amino acid synthesis and cellular metabolism. - commonly found in bacteria and plants. - likely associated with the cnidarian microbiome or translocated from the symbionts.	(Patrice et al., 2001; Ito et al., 2022)
Galacturonic acid	- found in plants and has anti-inflammatory properties. - produced by Symbiodiniaceae and may be important in symbiosis establishment and recognition. - likely translocated from the symbiont to the host.	(Gerschenson, 2017; Tortorelli et al., 2022)
Gluconic acid	- involved in glucose metabolism, and antioxidant NADPH production through the pentose phosphate pathway. - found in the Aiptasia metabolome. - increased only at T4 and not T16 in the current study.	(MIETTINEN and LESKINEN, 1970; Matthews et al., 2017)
Glycolic acid	- increases in aposymbiotic *vs.* symbiotic Aiptasia. - has anti-inflammatory properties by modulation of NFkB pathways and pro-inflammatory cytokines, however it can also induce apoptosis.	(Yang et al., 2004; Tang et al., 2017; Lust, 2022)
Pantothenic acid	- increases in aposymbiotic Aiptasia and Aiptasia colonised with heterologous symbionts *vs.* Aiptasia colonised with homologous symbionts. - precursor of CoA. - CoA can lead to the formation of triglycerides, phospholipids, antioxidants, cysteine and methionine.	(Wada and Takagi, 2006; Matthews, 2017; Aloum et al., 2019; Chandel, 2021; Mignani et al., 2021; Filonenko and Gout, 2023)
Phosphoric acid	- increases in aposymbiotic Aiptasia. - involved in cellular signalling, and the production of ATP, phospholipids and triglycerides.	(Stillwell, 2016; Matthews, 2017; Kritmetapak and Kumar, 2021; Choi et al., 2023)
Rhamnose	- usually found in bacteria, plants and fungi. - likely associated with the cnidarian microbiome or translocated from the symbionts. - found in plant and bacterial cell walls and increases in bacteria and plants under stressful conditions to adapt membrane structure or as an antioxidant defense.	(Williams et al., 2004; Hillyer, 2016; Dastogeer et al., 2017; Jiang et al., 2021; Nguyen et al., 2021; Song et al., 2021)
Ribonic acid	- sugar involved in ribose metabolism and production of nucleotides. - found in coral *Montipora capitata* metabolome. - increases in humans with diabetes	(Ding et al., 2017; Matthews, 2017; Tofte et al., 2019; Curovic et al., 2020)
Sedoheptulose	- sugar that is important for the production of nucleotides and is an intermediate in the pentose phosphate pathway. - mainly produced in plants. - likely translocated from the symbionts. - increased only at T4 and not T16 in the current study.	(Benson et al., 1951)
Tryptamine	- a group of monoamines that includes serotonin and melatonin that are well-studied in vertebrates but less studied in invertebrates. - increases in marine invertebrates, including cnidarians under stressful conditions	(da Silveira et al., 2007; Liu et al., 2018)

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