

**Table S2** The information of phosphoglucomutase (PGM) protein sequences from genome of different species

Taxonomy	Species	Gene ID
<i>Arabidopsis thaliana</i>	Spermatophyta	NP_199995.1
		NP_173732.1
		NP_177230.1
		NP_001154464.1
		NP_001154465.1
		NP_001320476.1
		NP_177239.1
		NP_001332305.1
		NP_001318587.1
		NP_001190326.1
		NP_001332304.1
		NP_568359.2
		XP_012467251.1
		XP_012467267.1
<i>Gossypium raimondii</i>	Spermatophyta	XP_012454357.1
		XP_012454356.1
		XP_012454355.1
		XP_012454353.1
		XP_012467252.1
		XP_012440230.1
		XP_012459882.1
		XP_015614961.1
		XP_015632142.1
		XP_015643632.1
<i>Oryza sativa</i>	Spermatophyta	XP_015647517.1
		XP_015647516.1
		XP_015643633.1
		XP_008675355.1
		NP_001355137.1
		NP_001105405.1
		NP_001105703.1
		XP_008652327.1
		XP_008652325.1
		XP_008673528.1
<i>Zea mays</i>	Spermatophyta	XP_035816183.1
		XP_020395615.1
		XP_020395614.2
		XP_001689884.1
		XP_001697992.1
<i>Chlamydomonas reinhardtii</i>	Chlorophyta	

		XP_001697991.1
		XP_001695635.1
<i>Micromonas pusilla</i>	Chlorophyta	XP_003056074.1
		XP_003056559.1
<i>Ostreococcus lucimarinus</i> CCE9901	Chlorophyta	XP_001421345.1
		XP_001415757.1
<i>Aureococcus anophagefferens</i>	Ochrophyta	XP_009036707.1
		XP_009035725.1
		CBJ31711.1
<i>Ectocarpus siliculosus</i>	Ochrophyta	CBN79734.1
		CBJ48481.1
		CBJ29496.1
		Phatr3_EG02613.p1
<i>Phaeodactylum tricornutum</i>	Ochrophyta	Phatr3_J32708.p1
		Phatr3_J16571.p1
		Phatr3_EG02240.p1
		PXF45253.1
<i>Gracilariopsis chorda</i>	Rhodophyta	PXF46312.1
		PXF42557.1
		PXF44087.1
		XP_005717610.1
<i>Chondrus crispus</i>	Rhodophyta	XP_005713583.1
		XP_005717288.1
		XP_005538026.1
<i>Cyanidioschyzon merolae</i> strain 10D	Rhodophyta	XP_005539294.1
		XP_005534981.1
		XP_005535333.1
		OSX75697.1
<i>Porphyra umbilicalis</i>	Rhodophyta	OSX73648.1
		OSX71554.1
		OSX69066.1
		evm.model.contig_2285.4
<i>Porphyridium purpureum</i>	Rhodophyta	evm.model.contig_452.2
		evm.model.contig_3397.5
		evm.model.contig_4446.7
<i>Phytophthora sojae</i>	Stramenopiles	XP_009532079.1
		XP_009514793.1
		CRG86074.1
<i>Talaromyces islandicus</i>	Ascomycota	CRG91341.1
		CRG92507.1
<i>Microsporium canis</i>	Ascomycota	XP_002850691.1
		XP_002843246.1
<i>Trichormus variabilis</i>	Cyanobacteria	WP_011320468.1
		WP_011318541.1

		WP_011319151.1
		WP_011317071.1
<i>Caldivirga maquilingensis</i>	Archaea	WP_156769897.1
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