

TABLE S2. Detailed IDs and evidence of protein existence of algae PLDs identified by HMMER iterative profiling.

Internal ID	Detailed Organism	Sequence Source	IDs <sup>a</sup>			Evidence	Details/Reference <sup>b</sup>
			Uniprot ID	NCBI ID	Genome ID		
Aano000842	<i>Aureococcus anophagefferens</i> CCMP1984	Joint Genome Institute (JGI)	F0Y0G9	EGB11219.1	N.D.	Predicted	N.F.
Aano000843			F0Y0H0	EGB11220	N.D.	Predicted	N.F.
Aano002975			F0Y438	EGB10462	N.D.	Transcript	Several ESTs. E.g. CATU3218 (GenBank: FC034497.1). DOE Joint Genome Institute <i>Aureococcus anophagefferens</i> EST project. Richardson P, Lucas S, Rokhsar D, Wang M, Lindquist EA. 2007. Status: Unpublished.
Ata1638166	<i>Alexandrium tamarense</i> CCMP1598	HMMER, tblastn	N.A.	GAIT01072816	N.D.	Transcript	Hackett et al. 2013. Mol. Biol. Evol. 30, 70-78.
Ata1041408			N.A.	GAIT01093962	N.D.	Transcript	Hackett et al. 2013. Mol. Biol. Evol. 30, 70-78.
Ata1805543			N.A.	GAIT01094103	N.D.	Transcript	Hackett et al. 2013. Mol. Biol. Evol. 30, 70-78.
Ata26918041			N.A.	GAJB01006537	N.D.	Transcript	Hackett et al. 2013. Mol. Biol. Evol. 30, 70-78.
Ata1827568			N.A.	GAJB01008292	N.D.	Transcript	Hackett et al. 2013. Mol. Biol. Evol. 30, 70-78.
Ata1646402			N.A.	GAJB01011009	N.D.	Transcript	Hackett et al. 2013. Mol. Biol. Evol. 30, 70-78.
Ata8314441			N.A.	GAJB01011685	N.D.	Transcript	Hackett et al. 2013. Mol. Biol. Evol. 30, 70-78.
Bnat019570	<i>Bigeloviella natans</i> CCMP2755	JGI	N.A.	N.A.	jgi Bigna1 91074 estExt_fggenes1_pg_C_870076	Transcript	Several ESTs: E.g. CFAO18423.b1. Source: JGI. No reference.
Bpra000411	<i>Bathycoccus prasinos</i>	Online Resource for Community Annotation of Eukaryotes (ORCAE)	K8EYG9	XP_007515424	N.D.	Transcript	Several ESTs. E.g. SuperContig_0.clus318.Contig1. Moreau et al. 2012. Genome Biol. 13,R74.
Bpra004120		ORCAE	K8EYZ8	XP_007511614	N.D.	Predicted	N.F.
Bpra007086		ORCAE	K8ENR5	XP_007508771	N.D.	Transcript	SuperContig_13.clus38.Contig1. Moreau et al. 2012. Genome Biol. 13,R74.
Che0000001	<i>Chondrus crispus</i>	HMMER NR database	R7QAJ1	XP_005714260	N.D.	Predicted	N.F.
Che0000002			R7QG88	XP_005716908	N.D.	Predicted	N.F.
Csub008810	<i>Coccomyxa subellipsoidea</i> C-169	JGI	I0Y1M4	XP_005642787	N.D.	Predicted	N.F.
Crei010659	<i>Chlamydomonas reinhardtii</i> CC-503 cv92 mt+	JGI - Phytosome	A8IW99	XP_001693080	N.D.	Protein	Lechtreck et al. 2009. J Cell Biol 187, 1117-1132.
Cypa007070	<i>Cyanophora paradoxa</i>	Rutgers	N.A.	N.A.	ConsensusfromContig38405-abinit-gene-0.0	Predicted	N.F.
Cypa029650	<i>Cyanophora paradoxa</i>	Rutgers	N.A.	N.A.	ConsensusfromContig7231-abinit-gene-0.2	Transcript	<i>Cyanophora paradoxa</i> _EST111910_ConsensusfromContig42911. Price et al. 2012. Science. 335,843-7
Cypa031663	<i>Cyanophora paradoxa</i>	Rutgers	N.A.	N.A.	ConsensusfromContig9326-abinit-gene-0.0	Predicted	N.F.
Ehux005194	<i>Emiliania huxleyi</i> CCMP1516	JGI	R1FFU4	EOD34391	N.D.	Predicted	N.F.
Ehux010295		JGI	R1CSG9	EOD17417	N.D.	Transcript	Several ESTs. E.g. JGI_CUPN2721.rev (GenBank ID: GE201237.1). DOE Joint Genome Institute <i>Emiliania huxleyi</i> EST project. Lucas S, Rokhsar D, Wang M, Lindquist EA, Read B. 2008. Status: Unpublished.
Ehux010382		JGI	R1C2H1	EOD16748	N.D.	Predicted	N.F.
Ehux013697		JGI	R1D7T9	EOD10500	N.D.	Predicted	N.F.
Ehux013699		JGI	R1BLR0	EOD10502	N.D.	Predicted	N.F.
Ehux015190		JGI	R1D9S8	EOD07631	N.D.	Predicted	N.F.
Ehux023753		JGI	R1D2U9	XP_005761354	N.D.	Transcript	One EST. JGI_CUP0696.fwd (GenBank:GE212438.1). DOE JGI <i>Emiliania huxleyi</i> EST project.
Ehux027657		JGI	R1ECX6	EOD24510	N.D.	Transcript	One EST. JGI_CAH05034.fwd (GenBank: GE154112.1). DOE JGI <i>Emiliania huxleyi</i> EST project.
Ehux028152		JGI	R1EL36	EOD23691	N.D.	Transcript	Two ESTs. JGI_CUPN3788.fwd (GenBank: GE202850.1). DOE JGI <i>Emiliania huxleyi</i> EST project.
Ehux030289		JGI	R1CBL6	EOD19752	N.D.	Predicted	N.F.
Fcyl000004	<i>Fragilariopsis cylindrus</i> CCMP 1102	JGI	N.A.	N.A.	jgi Frac1 247182 fggenes2_pg.19_#_355	Predicted	N.F.
Fcyl006173		JGI	N.A.	N.A.	jgi Frac1 209383 estExt_Genewise1Plus_C_80243	Transcript	One EST: EXTA1717.b0. Source: JGI. No reference.
Fcyl009520		JGI	N.A.	N.A.	jgi Frac1 197022 e_gw1.31.135.1	Predicted	N.F.
Fcyl020191		JGI	N.A.	N.A.	jgi Frac1 251375 fggenes2_pg.35_#_120	Predicted	N.F.
Mpus006304	<i>Micromonas pusilla</i> CCMP1545 v3.0	JGI	C1NS65	XP_003062918	N.D.	Transcript	Several ESTs. E.g. jgi JGI_CBIY8292.fwd JGI_CBIY8292.fwd. DOE JGI <i>Micromonas pusilla</i> EST project. Status: Unpublished.
Mpus006387		JGI	C1MQC2	XP_003057731	N.D.	Transcript	Several ESTs. E.g. jgi JGI_CBIZ6270.fwd JGI_CBIZ6270.fwd. DOE JGI <i>Micromonas pusilla</i> EST project. Status: Unpublished.
Mpus006717		JGI	C1N7K0	XP_003063915	N.D.	Predicted	N.F.
Misp009752	<i>Micromonas sp. RCC299</i>	JGI	C1EET0	XP_002505328	N.D.	Transcript	Several ESTs. E.g. JGI_CBBA4164.fwd. DOE JGI <i>Micromonas sp. RCC299</i> EST project. Status: Unpublished.
Misp012311		JGI	C1FH57	XP_002508507	N.D.	Transcript	Two ESTs. E.g. JGI_CBBA7432.fwd. DOE JGI <i>Micromonas sp. RCC299</i> EST project. Status: Unpublished.
Misp025558		JGI	C1EJG8	XP_002506779	N.D.	Predicted	N.F.
Ngad002295	<i>Nannochloropsis gaditana</i> CCMP526	Nannochloropsis Genome Portal	W7TJZ4	EWM26417	N.D.	Transcript	Locus_2371_Transcript_1/1. (GenBank: GAGR01002295). <i>Nannochloropsis gaditana</i> Transcripts. Zheng, M. et al. Status: Unpublished.
Noce009687	<i>Nannochloropsis oceanica</i> CCMP1779	Nannochloropsis Genome Portal	N.A.	N.A.	NannoCCMP1779/9655-mRNA-1	Predicted	N.F.
Oluc000626	<i>Ostreococcus lucimarinus</i> CCE9901	JGI	A4S175	XP_001419316	N.D.	Transcript	Two ESTs. E.g. ACFB1977.b1. DOE JGI <i>Ostreococcus lucimarinus</i> EST project. Status: Unpublished.
Oluc001211		JGI	A4RRH2	XP_001415569	N.D.	Predicted	N.F.
Oluc003749		JGI	A4RS98	XP_001416039	N.D.	Transcript	One EST: ACFB3474.b1. DOE JGI <i>Ostreococcus lucimarinus</i> EST project. Status: Unpublished.
Ota003862	<i>Ostreococcus tauri</i> iOTH95	JGI	N.A.	N.A.	jgi Osta4 29941 0000470003	Predicted	N.F.
Ota004121		JGI	Q01G57	XP_003074436	N.D.	Predicted	N.F.
Ota004243		JGI	Q01FD3	XP_003074711	N.D.	Predicted	N.F.
Pmu009211	<i>Pseudo-nitzschia multiseriata</i> CLN-47 v1.0	JGI	N.A.	N.A.	jgi Psemu1 257945 estExt_Genewise1Plus_C_2520049	Transcript	Several ESTs. E.g. Nutrient replete: CCCI12121.g1. Phosphate starved: CFAP929.b1. Pooled -Si, -Fe: CCOA8022.b1
Ppur001844	<i>Porphyridium purpureum</i>	Rutgers	N.A.	N.A.	evm.model.contig_2164.1	Transcript	One EST: Porphyridium_EST_contig04248. The <i>Porphyridium purpureum</i> Genome Project. Bhattacharya et al. 2013. Genome of the red alga <i>Porphyridium purpureum</i> . Nat Commun. 4,1941.
Ppur006012		Rutgers	N.A.	N.A.	evm.model.contig_4459.4	Transcript	One EST: Porphyridium_EST_contig04920. The <i>Porphyridium purpureum</i> Genome Project. Bhattacharya et al. 2013. Genome of the red alga <i>Porphyridium purpureum</i> . Nat Commun. 4,1941.
Ppur006013		Rutgers	N.A.	N.A.	evm.model.contig_4459.3	Transcript	One EST: Porphyridium_EST_contig04920. The <i>Porphyridium purpureum</i> Genome Project. Bhattacharya et al. 2013. Genome of the red alga <i>Porphyridium purpureum</i> . Nat Commun. 4,1941.
Ptri004380	<i>Phaeodactylum tricorutum</i> CCAP1055/1	JGI	B7GI33	XP_002180781	N.D.	Transcript	Several ESTs. E.g. KS0AGA14YB07FM1.SCF. Maheswari et al. 2005. The Diatom EST Database. Nucl. Acids. Res. 33, D344-D347.

Ptri009744		JGI	B7FZB6	XP_002180318	N.D.	Transcript	Several ESTs. E.g. KS0ABA11YJ13FM1.SCF. Maheswari et al. 2005. The Diatom EST Database. Nucl. Acids. Res. 33, D344-D347.
Smin009945	<i>Symbiodinium minutum</i>	Okinawa Institute of Science and Technology (OIST)	N.A.	N.A.	sympB1.v1.2.008765.t1	Transcript	Several ESTs. E.g. sympB1.EST_k37c20_22905. <i>Symbiodinium minutum</i> Clade B1 Gneome Project. Soguchi et al. 2013. Curr Biol. 23,1399-408.
Smin014079		OIST	N.A.	N.A.	sympB1.v1.2.012415.t1	Transcript	sympB1.EST_k37c20_15620. <i>Symbiodinium minutum</i> Clade B1 Gneome Project. Soguchi et al. 2013. Curr Biol. 23,1399-408.
Smin018127		OIST	N.A.	N.A.	sympB1.v1.2.015991.t1	Transcript	sympB1.comp50843_c0_seq1. <i>Symbiodinium minutum</i> Clade B1 Gneome Project. Soguchi et al. 2013. Curr Biol. 23,1399-408.
Smin025039		OIST	N.A.	N.A.	sympB1.v1.2.022118.t1	Transcript	sympB1.comp39519_c0_seq1. <i>Symbiodinium minutum</i> Clade B1 Gneome Project. Soguchi et al. 2013. Curr Biol. 23,1399-408.
Smin025040		OIST	N.A.	N.A.	sympB1.v1.2.022119.t1	Transcript	sympB1.comp45342_c0_seq1. <i>Symbiodinium minutum</i> Clade B1 Gneome Project. Soguchi et al. 2013. Curr Biol. 23,1399-408.
Smin030869		OIST	N.A.	N.A.	sympB1.v1.2.027300.t1	Transcript	sympB1.comp43142_c0_seq1. <i>Symbiodinium minutum</i> Clade B1 Gneome Project. Soguchi et al. 2013. Curr Biol. 23,1399-408.
Smin038356		OIST	N.A.	N.A.	sympB1.v1.2.034020.t1	Predicted	N.F.
Smin040183		OIST	N.A.	N.A.	sympB1.v1.2.035700.t1	Transcript	sympB1.EST_k37c20_47943. <i>Symbiodinium minutum</i> Clade B1 Gneome Project. Soguchi et al. 2013. Curr Biol. 23,1399-408.
Smin044551		OIST	N.A.	N.A.	sympB1.v1.2.039801.t1	Predicted	N.F.
Tpse002903	<i>Thalassiosira pseudonana CCMP 1335</i>	JGI	B5YN52	XP_002296206	N.D.	Transcript	One EST. CBFU871.fwd (GeneBank: FC523442.1). Maheswari et al. 2005. Nucl. Acids. Res. 33, D344-D347. Richardson et al. 2007. DOE Joint Genome Institute <i>Thalassiosira pseudonana</i> EST project. Unpublished.
Tpse006834		JGI	B8C630	XP_002291114.1	N.D.	Transcript	Several ESTs. E.g. CBFS5513.fwd (GeneBank: FC515304). Maheswari et al. 2005. Nucl. Acids. Res. 33, D344-D347. Richardson et al. 2007. DOE Joint Genome Institute <i>Thalassiosira pseudonana</i> EST project. Unpublished.
Tpse010415		JGI	B8BY84	XP_002288407	N.D.	Transcript	Several ESTs. E.g. CBPB2120.rev (GeneBank: FC525373). Maheswari et al. 2005. Nucl. Acids. Res. 33, D344-D347. Richardson et al. 2007. DOE Joint Genome Institute <i>Thalassiosira pseudonana</i> EST project. Unpublished.
Vcar013673	<i>Volvox carteri fnagariensis</i>	JGI-Phytosome	D8UHV0	XP_002958248	N.D.	Predicted	N.F.

<sup>a</sup> Genome IDs were retrieved only for those cases in which Uniprot or NCBI IDs were unavailable. For *A. tamarense*, NCBI IDs correspond to ESTs. N.A., Not Available; N.D., Not Determined; N.F., Not Found.

<sup>b</sup> Examples of ESTs and reference to sequencing projects and publications are provided for those proteins that have evidence at the transcript or protein levels. For predicted proteins, references to the genome sequencing publications and projects are provided in Table S1.