

Table S1. Description of GCP sequences identified for diatoms and for out-group.

	Species	Strain	Accession number	GCP	length, a.a.	% identity within aspecies
Animals	<i>Homo sapiens</i>		NP_001243546	GCP2	930	15,8 10 6,4 5
			NP_006313	GCP3	907	
			NP_001273343	GCP4	667	
			AAK77662	GCP5	1024	
			NP_065194	GCP6	1819	
Plants	<i>Arabidopsis thaliana</i>		AED92422	GCP2	679	14,9 15,7
			Q9FG37	GCP3	838	
			OAP01290	GCP4	745	
Fungi, Ascomycota	<i>Saccharomyces cerevisiae</i>		QHB09163	Spc97	823	12,4
			AJT23326	SPC98	846	
Chromista, Heterokonta, Oomycota	<i>Phytophthora nicotianae</i>		KUF64340	GCP2	1210	15,2 8,8 8,6
			KUF76510	GCP3	931	
			KUF76976	GCP4	850	
			KUG00998	GCP6	1209	
Chromista, Heterokonta, Ochrophyta	<i>Ectocarpus sp.</i>		CAB1097826	Spc98	938	
Chromista, Heterokonta, Bacillariophyta, Coscinodiscophyceae						
	<i>Aulacoseira subarctica</i>	CCAP_1002/5	CAMPEP_0172433114	GCP2	468	6,7
	<i>Corethron pennatum</i>	L29A3	CAMPEP_0200315726	GCP2	491	
	<i>Corethron hystrix</i>	308	CAMPEP_0113304990	GCP2	1025	
			CAMPEP_0113310304	GCP3	415	
	<i>Coscinodiscus wailesii</i>	CCMP2513	CAMPEP_0172503672	GCP3	465	9,7
			CAMPEP_0172505900	GCP4	799	
	<i>Dactyliosolen fragilissimus</i>		CAMPEP_0184873638	GCP3	1022	14
			CAMPEP_0184869688	GCP2	811	
	Chromista, Heterokonta, Bacillariophyta, Mediophyceae					
	<i>Attheya septentrionalis</i>	CCMP2084	CAMPEP_0198290388	GCP2	750	13,1
	<i>Chaetoceros affinis</i>	CCMP159	CAMPEP_0187021282	GCP2	334	
			CAMPEP_0187012874	GCP3	221	
	<i>Chaetoceros curvisetus</i>		CAMPEP_0187042092	GCP2	557	
			CAMPEP_0187074682	GCP3	316	
	<i>Chaetoceros debilis</i>	MM31A-1	CAMPEP_0200873290	GCP3	886	13,9
			CAMPEP_0200895134	GCP2	988	
	<i>Chaetoceros dichæta</i>	CCMP1751	CAMPEP_0198261590	GCP3	572	6,1
			CAMPEP_0198275018	GCP2	198	

<i>Chaetoceros tenuissimus</i>		GFH58980	GCP2	1020	
		GFH48628	GCP3	1006	14,5
<i>Chaetoceros neogratile</i>	CCMP1317	CAMPEP_0200991526	GCP3	1085	
		CAMPEP_0201015168	GCP2	1274	13
<i>Chaetoceros</i> sp.	GSL56	CAMPEP_0176479560	GCP3	1030	
<i>Cyclotella meneghiniana</i>	CCMP_338	CAMPEP_0172279446	GCP2	1350	
		CAMPEP_0172272694	GCP3	790	8,8
<i>Detonula confervacea</i>	CCMP_353	CAMPEP_0172328552	GCP2	1443	
		CAMPEP_0172325532	GCP3	1003	11,2
<i>Ditylum brightwellii</i>	GSO104	CAMPEP_0193981746	GCP3	423	
		CAMPEP_0193939136	GCP2	523	11,4
	GSO105	CAMPEP_0187353236	GCP4	353	
		CAMPEP_0187334744	GCP3	1090	6,5
		CAMPEP_0187337376	GCP2	804	14,4
<i>Eucampia antarctica</i>	CCMP1452	CAMPEP_0197836786	GCP2	274	
<i>Extubocellulus spinifer</i>	CCMP396	CAMPEP_0200506788	GCP4	733	
		CAMPEP_0200505284	GCP2	1698	8,7
		CAMPEP_0200506102	GCP3	1424	6,3
<i>Leptocylindrus danicus</i>	CCMP1856	CAMPEP_0196824282	GCP3	630	
		AMPEP_0196824264	GCP2	874	14,8
<i>Leptocylindrus danicus</i> var. <i>danicus</i>	B650	CAMPEP_0116004766	GCP6	530	
		CAMPEP_0116007126	GCP3	715	8,1
		CAMPEP_0116024682	GCP2	1111	6,1
<i>Minutocellus polymorphus</i>	H13	CAMPEP_0181031612	GCP2	2129	
		CAMPEP_0181035666	GCP3	1034	8,34
		CAMPEP_0181022260	GCP4	694	3,9
<i>Minutocellus polymorphus</i>	RCC2270	CAMPEP_0185814462	GCP3	780	
<i>Odontella</i>		CAMPEP_0113535984	GCP3	1018	
		CAMPEP_0113560700	GCP4	530	10,8
<i>Proboscia alata</i>	PI-D3	CAMPEP_0200179268	GCP5	359	
		CAMPEP_0200140732	GCP4	695	3,2
		CAMPEP_0200139986	GCP3	861	6,4
		CAMPEP_0200148558	GCP2	1936	2,3
<i>Proboscia inermis</i>	CCAP1064	CAMPEP_0171321380	GCP4	272	
		CAMPEP_0171303342	GCP2	335	13,3
<i>Skeletonema costatum</i>	1716	CAMPEP_0113380788	GCP3	937	
		CAMPEP_0113407062	GCP2	750	14,5
<i>Skeletonema dohrnii</i>	SkelB	CAMPEP_0192137624	GCP3	697	
<i>Skeletonema grethae</i>	CCMP_1804	CAMPEP_0201711052	GCP2	480	
<i>Skeletonema japonicum</i>	CCMP2506	CAMPEP_0201741136	GCP2	797	

<i>Skeletonema marinoi</i> <i>Skeletonema menzelii</i> <i>Thalassiosira antarctica</i> <i>Thalassiosira gravida</i> <i>Thalassiosira miniscula</i> <i>Thalassiosira oceanica</i> <i>Thalassiosira pseudonana</i> <i>Thalassiosira punctigera</i> <i>Thalassiosira rotula</i> <i>Thalassiosira weissflogii</i>	SkelA	CAMPEP_0201719476	GCP3	966	13,3
		CAMPEP_0192226214	GCP3	902	
		CAMPEP_0192223726	GCP2	531	9,4
	CCMP793	CAMPEP_0192258710	GCP3	946	
		CAMPEP_0192282762	GCP2	844	14,9
	CCMP982	CAMPEP_0200099138	GCP2	792	
		CAMPEP_0200087340	GCP3	985	15,5
	GMp14c1	CAMPEP_0200701512	GCP3	399	
		CAMPEP_0200731306	GCP2	881	9
	CCMP1093	CAMPEP_0201090696	GCP2	724	
		CAMPEP_0201084504	GCP3	1188	10
	CCMP1005	AMPEP_0192942200	GCP3	916	
		262619	GCP2	676	
	Tpunct2005C2	6459	GCP3	1092	11,2
		CAMPEP_0172574286	GCP3	617	
	CCMP3096	CAMPEP_0172576886	GCP2	1522	7,6
		CAMPEP_0192961864	GCP2	1551	
		CAMPEP_0192976186	GCP3	1038	10
		CAMPEP_0192997528	GCP2	276	
	GSO102	CAMPEP_0192994958	GCP3	101	8,3
		CCMP1010	CAMPEP_0193052944	GCP3	1066
	CCMP1336	CAMPEP_0193053784	GCP2	1833	8
		CAMPEP_0193068758	GCP2	1585	
		CAMPEP_0193084036	GCP3	1066	11,6
Chromista, Heterokonta, Bacillariophyta, Bacillariophyceae, Urneidophycidae					
<i>Asterionellopsis glacialis</i>	CCMP134	CAMPEP_0199907404	GCP2	811	
		CAMPEP_0199883012	GCP3	841	17,8
Chromista, Heterokonta,Bacillariophyta, Bacillariophyceae, Fragilariophycidae					
<i>Ulnaria acus</i>	CCMP_1798	19284	GCP3	726	
		21600	GCP2	1096	13,3
<i>Thalassionema frauenfeldii</i>		CAMPEP_0178931292	GCP3	548	
<i>Thalassionema nitzschioides</i>	L26-B	CAMPEP_0200206608	GCP3	758	
<i>Thalassiothrix antarctica</i>	L6-D1	CAMPEP_0200979464	GCP2	1131	
<i>Fragilaria crotonensis</i>		KAI2513735	GCP2	1077	
		KAI2505852	GCP3	772	11,1
<i>Licmophora paradoxa</i>	CCMP2313	AMPEP_0202447606	GCP3	257	
		CAMPEP_0202474432	GCP2	651	7,8
<i>Staurosira complex</i> sp.	CCMP2646	CAMPEP_0202510880	GCP2	1114	
Chromista, Heterokonta, Bacillariophyceae, Bacillariophycidae					

<i>Amphiprora sp.</i>		CAMPEP_0186515180	GCP2	1019	
<i>Amphiprora paludosa</i>	CCMP125	CAMPEP_0172461094	GCP2	496	
<i>Craspedostauros australis</i>	CCMP3328	CAMPEP_0198132742	GCP2	213	
		CAMPEP_0198136308	GCP3	383	10,4
<i>Cylindrotheca closterium</i>		CAMPEP_0113642850	GCP3	813	
<i>Fistulifera solaris</i>		GAX12253	GCP2	1232	
		GAX1175	GCP3	787	11,4
<i>Fragilariopsis cylindrus</i>		224880	GCP3	918	
		207014	GCP2	756	16,4
<i>Fragilariopsis kerguelensis</i>	L26 C5	CAMPEP_0188062944	GCP3	944	
		CAMPEP_0188071756	GCP2	1542	9,6
	L2 C3	CAMPEP_0199372024	GCP3	944	
		CAMPEP_0199366584	GCP2	1325	12,6
<i>Nitzschia inconspicua</i>		KAG7346153	GCP2	1931	
<i>Nitzschia punctata</i>	CCMP561	CAMPEP_0199321270	GCP3	405	
		CAMPEP_0199329008	GCP2	611	11,1
<i>Nitzschia sp.</i>		CAMPEP_0113450388	GCP3	679	
		CAMPEP_0113502030	GCP2	509	11
<i>Pseudo-nitzschia arenysensis</i>	B593	CAMPEP_0116114752	GCP3	935	
		CAMPEP_0116116392	GCP2	1142	15,5
<i>Pseudo-nitzschia australis</i>	10249	CAMPEP_0199655196	GCP2	717	
		CAMPEP_0199653806	GCP3	993	13,1
<i>Pseudo-nitzschia delicatissima</i>	B596	CAMPEP_0116098148	GCP3	948	
		CAMPEP_0116101462	GCP2	1489	12,8
<i>Pseudo-nitzschia fraudulenta</i>	WWA7	CAMPEP_0199816714	GCP2	448	
		CAMPEP_0199759484	GCP3	317	11,3
<i>Pseudo-nitzschia heimii</i>	UNC1101	CAMPEP_0197197498	GCP2	630	
		CAMPEP_0197199456	GCP3	371	9,3
<i>Pseudo-nitzschia multiseries</i>		183312			
			GCP2	973	
		317641	GCP3	876	17,3
<i>Pseudo-nitzschia pungens</i>		CAMPEP_0172373338	GCP2	230	
<i>Phaeodactylum tricornutum</i>		44333	GCP3	844	
		47314	GCP2	1275	11,9