

Table S1: Tabulation of all functionally characterized P-type ATPases (families 1-9) encoded within the fully sequenced genomes of 26 eukaryotes

Family #	Abbreviation	Organism	Protein Size	Genbank Index#	TDB ID#*	ExPASy#	pt.org#**	Organism Type
1	3.A.3.1.1	Homo sapiens	1023	21361181				Metazoa
	Afu02	Aspergillus fumigatus	1047	74667709				Fungi
	Afu16	Aspergillus fumigatus	1105	74668585				Fungi
	Agal2	Anopheles gambiae str. PEST	1000	118782102				Metazoa
	Aor11	Aspergillus oryzae	1049	83773808				Fungi
	Aor12	Aspergillus oryzae	1032	83765108				Fungi
	Cel01	Caenorhabditis elegans	1049	3873885				Metazoa
	Cel03	Caenorhabditis elegans	1060	2291275				Metazoa
	Ddi03	Dictyostelium discoideum AX4	1232	66818235				Mycetozoa
	Ddi09	Dictyostelium discoideum AX4	1306	66828131				Mycetozoa
	Dme11	Drosophila melanogaster	1030	24658150				Metazoa
	Dme14	Drosophila melanogaster	1041	24648576				Metazoa
	Hsa03	Homo sapiens	1035	4502291				Metazoa
	Hsa09	Homo sapiens	1042	10280618				Metazoa
	Hsa15	Homo sapiens	1013	22748667				Metazoa
	Hsa23	Homo sapiens	1020	1703467				Metazoa
	Hsa25	Homo sapiens	1029	23830899				Metazoa
	Tth100	Tetrahymena thermophila SB210	1195	118381158				Alveolata
	Tth101	Tetrahymena thermophila SB210	1210	118347952				Alveolata
	Tth102	Tetrahymena thermophila SB210	1197	118363961				Alveolata
	Tth103	Tetrahymena thermophila SB210	1188	118377866				Alveolata
	Tth104	Tetrahymena thermophila SB210	1180	118363957				Alveolata
	Tth105	Tetrahymena thermophila SB210	1347	118363110				Alveolata
	Tth106	Tetrahymena thermophila SB210	1498	118377860				Alveolata
	Tth107	Tetrahymena thermophila SB210	925	118362567				Alveolata
	Tth108	Tetrahymena thermophila SB210	961	118362569				Alveolata
	Tth109	Tetrahymena thermophila SB210	940	118362565				Alveolata
	Tth110	Tetrahymena thermophila SB210	1345	118354431				Alveolata
	Tth115	Tetrahymena thermophila SB210	1185	118384259				Alveolata
	Tth122	Tetrahymena thermophila SB210	1318	118365351				Alveolata
	Tth145	Tetrahymena thermophila SB210	975	118378546				Alveolata
	Tth93	Tetrahymena thermophila SB210	1223	118364304				Alveolata
	Tth94	Tetrahymena thermophila SB210	1196	118348432				Alveolata
	Tth95	Tetrahymena thermophila SB210	1184	118402051				Alveolata
	Tth96	Tetrahymena thermophila SB210	1196	146161541				Alveolata
	Tth97	Tetrahymena thermophila SB210	1192	118345946				Alveolata
	Tth98	Tetrahymena thermophila SB210	1370	118365465				Alveolata
	Tth99	Tetrahymena thermophila SB210	1179	118402047				Alveolata
2	3.A.3.2.1	Homo sapiens	1241	14286105				Metazoa
	3.A.3.2.5	Homo sapiens	919	6715131				Metazoa
	Afu05	Aspergillus fumigatus	1061	74668935				Fungi
	Afu11	Aspergillus fumigatus	1202	74674325				Fungi
	Afu17	Aspergillus fumigatus	1077	74666507				Fungi
	Afu18	Aspergillus fumigatus	971	74671032				Fungi
	Afu19	Aspergillus fumigatus	1432	74672662				Fungi
	Aga06	Anopheles gambiae str. PEST	901	118792613				Metazoa
	Aga10	Anopheles gambiae str. PEST	1086	118781239				Metazoa

Agall	Anopheles gambiae str. PEST	1018	118787738		Metazoa
Ani02	Aspergillus nidulans FGSC A4	1432	67518045		Fungi
Ani05	Aspergillus nidulans FGSC A4	1152	67524739		Fungi
Ani10	Aspergillus nidulans FGSC A4	1181	67537500		Fungi
Ani11	Aspergillus nidulans FGSC A4	1134	67537836		Fungi
Ani12	Aspergillus nidulans FGSC A4	972	67539146		Fungi
Ani16	Aspergillus nidulans FGSC A4	1062	67900954		Fungi
Ani18	Aspergillus nidulans FGSC A4	1116	67902824		Fungi
Aor01	Aspergillus oryzae	1006	83767149		Fungi
Aor07	Aspergillus oryzae	1058	83767056		Fungi
Aor18	Aspergillus oryzae	1250	83774002		Fungi
Aor20	Aspergillus oryzae	1152	83765673		Fungi
Aor21	Aspergillus oryzae	1218	83767637		Fungi
Aor25	Aspergillus oryzae	820	83772473		Fungi
Ath03	Arabidopsis thaliana	1020	30690083		Viridiplantae
Ath11	Arabidopsis thaliana	998	110738280		Viridiplantae
Ath13	Arabidopsis thaliana	1061	15223017		Viridiplantae
Ath15	Arabidopsis thaliana	1015	20197272		Viridiplantae
Ath19	Arabidopsis thaliana	1086	110742708		Viridiplantae
Ath21	Arabidopsis thaliana	1033	15229421		Viridiplantae
Ath23	Arabidopsis thaliana	1025	15230278		Viridiplantae
Ath27	Arabidopsis thaliana	1017	15228891		Viridiplantae
Ath28	Arabidopsis thaliana	1054	15236991		Viridiplantae
Ath33	Arabidopsis thaliana	1069	15233753		Viridiplantae
Ath42	Arabidopsis thaliana	1074	110742205		Viridiplantae
Ath45	Arabidopsis thaliana	1062		Q9XES1	Viridiplantae
Ath46	Arabidopsis thaliana	1014		O81108	Viridiplantae
Ath47	Arabidopsis thaliana	1030		O22218	Viridiplantae
Cell1	Caenorhabditis elegans	1059	3878520		Metazoa
Cell2	Caenorhabditis elegans	1110	4226083		Metazoa
Cell6	Caenorhabditis elegans	1249	3880581		Metazoa
Cell23	Caenorhabditis elegans	901	71997262		Metazoa
Cme01	Cyanidioschyzon merolae 10D	1075		CMM114C	Protozoan
Cme05	Cyanidioschyzon merolae 10D	1195		CMQ379C	Protozoan
Cme10	Cyanidioschyzon merolae 10D	1005		CMT241C	Protozoan
Cne11	Cryptococcus neoformans var. neoform.	1410	134110820		Fungi
Cne12	Cryptococcus neoformans var. neoform.	1007	58270512		Fungi
Cne13	Cryptococcus neoformans var. neoform.	1112	134115739		Fungi
Cpa05	Cryptosporidium parvum Iowa II	1528	66357358		Alveolata
Cpa07	Cryptosporidium parvum Iowa II	1129	66363216		Alveolata
Cpo01	Coccidioides posadasii C735	1007		10.m00700	Fungi
Cpo02	Coccidioides posadasii C735	1217		12.m07703	Fungi
Cpo10	Coccidioides posadasii C735	1437		52.m07025	Fungi
Cpo12	Coccidioides posadasii C735	1073		67.m08817	Fungi
Ddi05	Dictyostelium discoideum AX4	927	66809547		Mycetozoa
Ddi08	Dictyostelium discoideum AX4	1077	66804973		Mycetozoa
Ddi15	Dictyostelium discoideum AX4	1115	111226706		Mycetozoa
Dme07	Drosophila melanogaster	1190	62473120		Metazoa
Dme10	Drosophila melanogaster	1034	24668696		Metazoa
Dme12	Drosophila melanogaster	1002	158416		Metazoa
Ehi07	Entamoeba histolytica HM-1:IMSS	1026	67464749		Entamoebidae
Ehi08	Entamoeba histolytica HM-1:IMSS	1067	67464666		Entamoebidae

Ehi10	Entamoeba histolytica HM-1:IMSS	1087	67477858		Entamoebidae
Ehi16	Entamoeba histolytica HM-1:IMSS	1072	67475672		Entamoebidae
Hsa01	Homo sapiens	1042	24638454		Metazoa
Hsa05	Homo sapiens	1198	4757808		Metazoa
Hsa11	Homo sapiens	1173	11386155		Metazoa
Hsa19	Homo sapiens	1043	28373109		Metazoa
Hsa22	Homo sapiens	1023	114374		Metazoa
Hsa24	Homo sapiens	1013	116241260		Metazoa
Lma01	Leishmania major	1051	68125767		Euglenozoa
Lma04	Leishmania major	1194	68128931		Euglenozoa
Lma09	Leishmania major strain Friedlin	1023	76363601		Euglenozoa
Lma11	Leishmania major	1119	68124265		Euglenozoa
Ncr04	Neurospora crassa OR74A	1025	32420569		Fungi
Ncr05	Neurospora crassa OR74A	997	32420595		Fungi
Ncr09	Neurospora crassa OR74A	1385	32406975		Fungi
Ncr12	Neurospora crassa OR74A	1152	32408056		Fungi
Osa02	Oryza sativa (japonica cultivar-group)	1043	115442131		Viridiplantae
Osa04	Oryza sativa (japonica cultivar-group)	1057	50252047		Viridiplantae
Osa12	Oryza sativa (japonica cultivar-group)	1019	115451413		Viridiplantae
Osa13	Oryza sativa (japonica cultivar-group)	1062	24796816		Viridiplantae
Osa15	Oryza sativa (japonica cultivar-group)	1058	108710898		Viridiplantae
Osa16	Oryza sativa (japonica cultivar-group)	1033	115454121		Viridiplantae
Osa18	Oryza sativa (japonica cultivar-group)	1088	115460390		Viridiplantae
Osa23	Oryza sativa (japonica cultivar-group)	1021	115464665		Viridiplantae
Osa24	Oryza sativa (japonica cultivar-group)	1055	9743458		Viridiplantae
Osa31	Oryza sativa (japonica cultivar-group)	1096	42408736		Viridiplantae
Osa33	Oryza sativa (japonica cultivar-group)	1035	20042982		Viridiplantae
Osa37	Oryza sativa (japonica cultivar-group)	1039	115487236		Viridiplantae
Osa38	Oryza sativa (japonica cultivar-group)	1020	115489344		Viridiplantae
Osa39	Oryza sativa (japonica cultivar-group)	1096	42408736	OsACA10	Viridiplantae
Osa40	Oryza sativa (japonica cultivar-group)	1039	125533331	OsACA4	Viridiplantae
Pfa03	Plasmodium falciparum	1228	402222		Alveolata
Pfa06	Plasmodium falciparum 3D7	1208	23508815		Alveolata
Sce07	Saccharomyces cerevisiae	1173	6321432		Fungi
Sce09	Saccharomyces cerevisiae	950	6321271		Fungi
Spo11	Schizosaccharomyces pombe	899	59799153		Fungi
Spo13	Schizosaccharomyces pombe	1293	19114802		Fungi
Tbr04	Trypanosoma brucei TREU927	1106	72392309		Euglenozoa
Tbr06	Trypanosoma brucei TREU927	1100	71748628		Euglenozoa
Tbr12	Trypanosoma brucei TREU927	1011	72389430		Euglenozoa
Tbr15	Trypanosoma brucei TREU927	1102	72392305		Euglenozoa
Tbr18	Trypanosoma brucei TREU927	1080	72392313		Euglenozoa
Tcr04	Trypanosoma cruzi strain CL Brener	1060	71655213		Euglenozoa
Tcr07	Trypanosoma cruzi strain CL Brener	1103	71657662		Euglenozoa
Tcr09	Trypanosoma cruzi strain CL Brener	1006	71651087		Euglenozoa
Tpa01	Theileria parva strain Muguga	1361	71033199		Alveolata
Tpa04	Theileria parva strain Muguga	1277	71030896		Alveolata
Tps03	Thalassiosira pseudonana CCMP1335	981		ORF04814	Protozoan
Tps05	Thalassiosira pseudonana CCMP1335	1017		ORF05444	Protozoan
Tps07	Thalassiosira pseudonana CCMP1335	992		ORF05697	Protozoan
Tps08	Thalassiosira pseudonana CCMP1335	957		ORF05906	Protozoan
Tth82	Tetrahymena thermophila SB210	1534	118362388		Alveolata

	Tth83	Tetrahymena thermophila SB210	1264	118386173		Alveolata
	Tth84	Tetrahymena thermophila SB210	1191	118362394		Alveolata
	Tth85	Tetrahymena thermophila SB210	1044	118387699		Alveolata
	Tth86	Tetrahymena thermophila SB210	1001	118372229		Alveolata
	Tth87	Tetrahymena thermophila SB210	2451	118380633		Alveolata
	Tth88	Tetrahymena thermophila SB210	1114	118365447		Alveolata
	Tth89	Tetrahymena thermophila SB210	920	118398887		Alveolata
	Tth90	Tetrahymena thermophila SB210	1010	118383497		Alveolata
	Tth91	Tetrahymena thermophila SB210	1043	146173545		Alveolata
	Tth92	Tetrahymena thermophila SB210	1086	118396179		Alveolata
3	3.A.3.3.1	Neurospora crassa OR74A	920	85082294		Fungi
	Afu01	Aspergillus fumigatus	1017	74667986		Fungi
	Afu03	Aspergillus fumigatus	959	74670025		Fungi
	Afu12	Aspergillus fumigatus	988	74674031		Fungi
	Ani01	Aspergillus nidulans FGSC A4	931	67516073		Fungi
	Ani20	Aspergillus nidulans FGSC A4	991	3366659		Fungi
	Aor13	Aspergillus oryzae	1019	83771451		Fungi
	Aor16	Aspergillus oryzae	980	83773466		Fungi
	Aor19	Aspergillus oryzae	943	83765711		Fungi
	Ath07	Arabidopsis thaliana	947	42562116		Viridiplantae
	Ath12	Arabidopsis thaliana	954	15220197		Viridiplantae
	Ath14	Arabidopsis thaliana	931	15224157		Viridiplantae
	Ath22	Arabidopsis thaliana	960	83305346		Viridiplantae
	Ath25	Arabidopsis thaliana	948	15229126		Viridiplantae
	Ath26	Arabidopsis thaliana	961	15232300		Viridiplantae
	Ath34	Arabidopsis thaliana	813	15234277		Viridiplantae
	Ath38	Arabidopsis thaliana	949	18176052		Viridiplantae
	Ath48	Arabidopsis thaliana	948		P20649	Viridiplantae
	Ath49	Arabidopsis thaliana	947		P19456	Viridiplantae
	Ath50	Arabidopsis thaliana	949		Q9SH76	Viridiplantae
	Ath51	Arabidopsis thaliana	956		Q9LV11	Viridiplantae
	Cme04	Cyanidioschyzon merolae 10D	954			Protozoan
	Cne14	Cryptococcus neoformans var. neoform.	1087	134114423	CMQ247C	Fungi
	Cne15	Cryptococcus neoformans var. neoform.	999	6691153		Fungi
	Cpo11	Coccidioides posadasii C735	935		52.m07286	Fungi
	Ddi16	Dictyostelium discoideum AX4	1058	66811310		Mycetozoa
	Lma02	Leishmania major	974	68126015		Euglenozoa
	Lma17	Leishmania major	952	76363822		Euglenozoa
	Osa06	Oryza sativa (japonica cultivar-grou	942	20302441		Viridiplantae
	Osa08	Oryza sativa (japonica cultivar-grou	970	115450093		Viridiplantae
	Osa11	Oryza sativa (japonica cultivar-grou	941	15217282		Viridiplantae
	Osa19	Oryza sativa (japonica cultivar-grou	951	115461036		Viridiplantae
	Osa21	Oryza sativa (japonica cultivar-grou	1014	115463173		Viridiplantae
	Osa27	Oryza sativa (japonica cultivar-grou	957	633110		Viridiplantae
	Osa35	Oryza sativa (japonica cultivar-grou	923	77550906		Viridiplantae
	Osa41	Oryza sativa (japonica cultivar-grou	956	115454693	OsAHA1	Viridiplantae
	Osa42	Oryza sativa (japonica cultivar-grou	956	115489790	OsAHA3	Viridiplantae
	Osa43	Oryza sativa (japonica cultivar-grou	955	20302439	OsAHA5	Viridiplantae
	Sce14	Saccharomyces cerevisiae	919	224905		Fungi
	Sce15	Saccharomyces cerevisiae	948	295644		Fungi
	Spo03	Schizosaccharomyces pombe	919	114333		Fungi

	Spo04	Schizosaccharomyces pombe	1010	114337		Fungi
	Tbr07	Trypanosoma brucei TREU927	920	71748802		Euglenozoa
	Tbr26	Trypanosoma brucei TREU927	912	30315293		Euglenozoa
	Tbr29	Trypanosoma brucei TREU927	905	31321978		Euglenozoa
	Tcr06	Trypanosoma cruzi strain CL Brener	898	71423958		Euglenozoa
	Tps09	Thalassiosira pseudonana CCMP1335	808		ORF06231	Protozoan
4	3.A.3.4.1	Salmonella typhimurium LT2	902	16767701		Gammaproteobacteria
	Cpo18	Coccidioides posadasii C735	929		73.m03793	Fungi
	Ddi10	Dictyostelium discoideum AX4	954	66827257		Mycetozoa
5	3.A.3.5.3	Homo sapiens	1465	551502		Metazoa
	Afu06	Aspergillus fumigatus	1187	74671749		Fungi
	Afu10	Aspergillus fumigatus	1254	74674525		Fungi
	Afu20	Aspergillus fumigatus	1118	74672135		Fungi
	Agal4	Anopheles gambiae str. PEST	1174	118793241		Metazoa
	Ani06	Aspergillus nidulans FGSC A4	1211	67525319		Fungi
	Ani08	Aspergillus nidulans FGSC A4	1182	67526333		Fungi
	Aor10	Aspergillus oryzae	1271	83770829		Fungi
	Aor17	Aspergillus oryzae	1138	83773889		Fungi
	Aor23	Aspergillus oryzae	1180	83764662		Fungi
	Aor24	Aspergillus oryzae	1189	83764473		Fungi
	Ath01	Arabidopsis thaliana	995	15222419		Viridiplantae
	Ath36	Arabidopsis thaliana	949	110737997		Viridiplantae
	Ath37	Arabidopsis thaliana	1001	25277989		Viridiplantae
	Ath44	Arabidopsis thaliana	857		Q9C594	Viridiplantae
	Cell9	Caenorhabditis elegans	1116	3877253		Metazoa
	Cme03	Cyanidioschyzon merolae 10D	1425		CMP215C	Protozoan
	Cne08	Cryptococcus neoformans var. neoform	1055	58262386		Fungi
	Cpo03	Coccidioides posadasii C735	1245		12.m07922	Fungi
	Cpo06	Coccidioides posadasii C735	1033		13.m01932	Fungi
	Cpo14	Coccidioides posadasii C735	1211		67.m09120	Fungi
	Ddi02	Dictyostelium discoideum AX4	1280	66822883		Mycetozoa
	Ddi12	Dictyostelium discoideum AX4	1386	111218599		Mycetozoa
	Ddi22	Dictyostelium discoideum AX4	985	66809993		Mycetozoa
	Dme06	Drosophila melanogaster	1219	45549362		Metazoa
	Hsa04	Homo sapiens	1500	4502321		Metazoa
	Lma05	Leishmania major	1163	68129043		Euglenozoa
	Ncr08	Neurospora crassa OR74A	1310	32405564		Fungi
	Ncr15	Neurospora crassa OR74A	1097	85091729		Fungi
	Ncr18	Neurospora crassa OR74A	1181	85117384		Fungi
	Osa03	Oryza sativa (japonica cultivar-group)	1012	49387577		Viridiplantae
	Osa05	Oryza sativa (japonica cultivar-group)	978	115444827		Viridiplantae
	Osa10	Oryza sativa (japonica cultivar-group)	885	108706483		Viridiplantae
	Osa17	Oryza sativa (japonica cultivar-group)	1002	115459844		Viridiplantae
	Osa30	Oryza sativa (japonica cultivar-group)	959	42408181		Viridiplantae
	Osa50	Oryza sativa (japonica cultivar-group)	1004		OsHMA9	Viridiplantae
	Sce02	Saccharomyces cerevisiae	1216	584790		Fungi
	Sce04	Saccharomyces cerevisiae	1004	728935		Fungi
	Sce19	Saccharomyces cerevisiae	1217	7415611		Fungi
	Spo09	Schizosaccharomyces pombe	904	74676006		Fungi
	Tbr08	Trypanosoma brucei TREU927	961	71754605		Euglenozoa

	Tcr01	Trypanosoma cruzi strain CL Brener	954	71417434		Euglenozoa
6	3.A.3.6.2	Escherichia coli K12	732	16131341		Gammaproteobacteria
	Ath17	Arabidopsis thaliana	1172	110742471		Viridiplantae
	Ath32	Arabidopsis thaliana	951	15234620		Viridiplantae
	Ath35	Arabidopsis thaliana	819	57283989		Viridiplantae
	Ath43	Arabidopsis thaliana	760		9SZW5	Viridiplantae
	Osa28	Oryza sativa (japonica cultivar-group)	1004	24060056		Viridiplantae
	Osa48	Oryza sativa (japonica cultivar-group)	793		OsHMA1	Viridiplantae
	Osa49	Oryza sativa (japonica cultivar-group)	1061		OsHMA2	Viridiplantae
8	3.A.3.8.1	Bos taurus	1149	27807317		Metazoa
	Afu08	Aspergillus fumigatus	1532	74671513		Fungi
	Afu13	Aspergillus fumigatus	1277	74667504		Fungi
	Afu15	Aspergillus fumigatus	1508	74667316		Fungi
	Afu22	Aspergillus fumigatus	1357	74675710		Fungi
	Aga01	Anopheles gambiae str. PEST	1543	118782465		Metazoa
	Aga02	Anopheles gambiae str. PEST	1220	118789758		Metazoa
	Aga03	Anopheles gambiae str. PEST	1098	118789225		Metazoa
	Aga04	Anopheles gambiae str. PEST	1303	119114813		Metazoa
	Aga09	Anopheles gambiae str. PEST	1180	119114290		Metazoa
	Ani04	Aspergillus nidulans FGSC A4	1688	67523109		Fungi
	Ani13	Aspergillus nidulans FGSC A4	1348	67539884		Fungi
	Ani14	Aspergillus nidulans FGSC A4	1265	67540888		Fungi
	Ani19	Aspergillus nidulans FGSC A4	1501	67903370		Fungi
	Aor02	Aspergillus oryzae	1460	83768143		Fungi
	Aor14	Aspergillus oryzae	1516	83772590		Fungi
	Aor15	Aspergillus oryzae	1267	83771766		Fungi
	Aor22	Aspergillus oryzae	1356	83775133		Fungi
	Ath02	Arabidopsis thaliana	1184	15222647		Viridiplantae
	Ath04	Arabidopsis thaliana	1213	30316321		Viridiplantae
	Ath06	Arabidopsis thaliana	1218	15220134		Viridiplantae
	Ath08	Arabidopsis thaliana	1240	15221763		Viridiplantae
	Ath20	Arabidopsis thaliana	1202	15230859		Viridiplantae
	Ath24	Arabidopsis thaliana	1174	15232278		Viridiplantae
	Ath39	Arabidopsis thaliana	1107	18422421		Viridiplantae
	Ath52	Arabidopsis thaliana	1158		P98204	Viridiplantae
	Ath53	Arabidopsis thaliana	1228		Q9SGG3	Viridiplantae
	Ath54	Arabidopsis thaliana	1247		Q9LVK9	Viridiplantae
	Ath55	Arabidopsis thaliana	1200		Q9SX33	Viridiplantae
	Ath56	Arabidopsis thaliana	1203		Q9SAF5	Viridiplantae
	Cel07	Caenorhabditis elegans	1059	3880373		Metazoa
	Cel13	Caenorhabditis elegans	1212	4883518		Metazoa
	Cel17	Caenorhabditis elegans	1353	3880626		Metazoa
	Cel24	Caenorhabditis elegans	1139	71994467		Metazoa
	Cel25	Caenorhabditis elegans	1222	71990329		Metazoa
	Cel27	Caenorhabditis elegans	1074	71985753		Metazoa
	Cme06	Cyanidioschyzon merolae 10D	1334		CMR306C	Protozoan
	Cme09	Cyanidioschyzon merolae 10D	1157		CMS375C	Protozoan
	Cne09	Cryptococcus neoformans var. neoform	1564	58262510		Fungi
	Cne16	Cryptococcus neoformans var. neoform	1106	58270838		Fungi
	Cne17	Cryptococcus neoformans var. neoform	1764	134110716		Fungi

Cne18	Cryptococcus neoformans var. neoform	1329	134106681		Fungi
Cpa03	Cryptosporidium parvum Iowa II	1178	66359306		Alveolata
Cpa06	Cryptosporidium parvum Iowa II	1278	66362774		Alveolata
Cpa21	Cryptosporidium parvum Iowa II	1291	126644169		Alveolata
Cpo05	Coccidioides posadasii C735	1264		13.m01837	Fungi
Cpo07	Coccidioides posadasii C735	1696		14.m02886	Fungi
Cpo09	Coccidioides posadasii C735	1525		52.m06991	Fungi
Cpo13	Coccidioides posadasii C735	1355		67.m09009	Fungi
Ddi01	Dictyostelium discoideum AX4	1158	66819763		Mycetozoa
Ddi04	Dictyostelium discoideum AX4	1536	66811144		Mycetozoa
Ddi07	Dictyostelium discoideum AX4	1181	66807571		Mycetozoa
Ddi11	Dictyostelium discoideum AX4	1313	66825131		Mycetozoa
Ddi14	Dictyostelium discoideum AX4	1267	66819045		Mycetozoa
Ddi17	Dictyostelium discoideum AX4	1256	66812948		Mycetozoa
Ddi18	Dictyostelium discoideum AX4	1195	66825235		Mycetozoa
Ddi19	Dictyostelium discoideum AX4	1163	66819715		Mycetozoa
Ddi20	Dictyostelium discoideum AX4	1867	66818875		Mycetozoa
Dme01	Drosophila melanogaster	1494	45552285		Metazoa
Dme02	Drosophila melanogaster	1718	24646188		Metazoa
Dme03	Drosophila melanogaster	1150	19922170		Metazoa
Dme08	Drosophila melanogaster	1087	24584082		Metazoa
Dme13	Drosophila melanogaster	1342	24642515		Metazoa
Dme19	Drosophila melanogaster	1060	24642513		Metazoa
Ecu02	Encephalitozoon cuniculi GB-M1	990	19074343		Microsporidian
Ecu04	Encephalitozoon cuniculi GB-M1	1094	19173265		Microsporidian
Ehi02	Entamoeba histolytica HM-1:IMSS	1057	67469928		Entamoebidae
Ehi03	Entamoeba histolytica HM-1:IMSS	1068	67481081		Entamoebidae
Ehi04	Entamoeba histolytica HM-1:IMSS	982	67467250		Entamoebidae
Ehi05	Entamoeba histolytica HM-1:IMSS	1098	67466493		Entamoebidae
Ehi06	Entamoeba histolytica HM-1:IMSS	1055	67465269		Entamoebidae
Ehi09	Entamoeba histolytica HM-1:IMSS	1099	67478540		Entamoebidae
Ehi11	Entamoeba histolytica HM-1:IMSS	1166	67483327		Entamoebidae
Ehi12	Entamoeba histolytica HM-1:IMSS	1050	67476172		Entamoebidae
Ehi14	Entamoeba histolytica HM-1:IMSS	1335	67482881		Entamoebidae
Hsa06	Homo sapiens	1251	5031697		Metazoa
Hsa07	Homo sapiens	1188	74758814		Metazoa
Hsa13	Homo sapiens	1499	14424433		Metazoa
Hsa16	Homo sapiens	1177	30316395		Metazoa
Hsa17	Homo sapiens	1134	30316370		Metazoa
Hsa18	Homo sapiens	1103	30315929		Metazoa
Hsa20	Homo sapiens	1426	28466989		Metazoa
Hsa21	Homo sapiens	1047	12643392		Metazoa
Lma03	Leishmania major	1279	68127901		Euglenozoa
Lma06	Leishmania major	1491	68129440		Euglenozoa
Lma07	Leishmania major	1157	68129500		Euglenozoa
Lma13	Leishmania major	2525	68124558		Euglenozoa
Lma14	Leishmania major	1097	68125196		Euglenozoa
Ncr01	Neurospora crassa OR74A	1360	32403650		Fungi
Ncr06	Neurospora crassa OR74A	1743	32404562		Fungi
Ncr07	Neurospora crassa OR74A	1331	32405012		Fungi
Ncr13	Neurospora crassa OR74A	1486	85104431		Fungi
Ncr14	Neurospora crassa OR74A	1562	85114063		Fungi

Osa01	Oryza sativa (japonica cultivar-group)	1059	115435956		Viridiplantae
Osa14	Oryza sativa (japonica cultivar-group)	1302	108708007		Viridiplantae
Osa20	Oryza sativa (japonica cultivar-group)	1207	125592483		Viridiplantae
Osa25	Oryza sativa (japonica cultivar-group)	1207	51535679		Viridiplantae
Osa26	Oryza sativa (japonica cultivar-group)	1222	53793271		Viridiplantae
Osa34	Oryza sativa (japonica cultivar-group)	1039	108864348		Viridiplantae
Osa44	Oryza sativa (japonica cultivar-group)	1071		OsALA10	Viridiplantae
Osa45	Oryza sativa (japonica cultivar-group)	1121		OsALA3	Viridiplantae
Osa46	Oryza sativa (japonica cultivar-group)	1161		OsALA6	Viridiplantae
Osa47	Oryza sativa (japonica cultivar-group)	1237		OsALA8	Viridiplantae
Pfa02	Plasmodium falciparum 3D7	1864	3758839		Alveolata
Pfa07	Plasmodium falciparum 3D7	1555	23508884		Alveolata
Pfa08	Plasmodium falciparum 3D7	1618	23508919		Alveolata
Sce01	Saccharomyces cerevisiae	1355	728905		Fungi
Sce03	Saccharomyces cerevisiae	1612	2493010		Fungi
Sce06	Saccharomyces cerevisiae	1571	728906		Fungi
Sce10	Saccharomyces cerevisiae	1151	731806		Fungi
Sce11	Saccharomyces cerevisiae	1656	6323814		Fungi
Spo02	Schizosaccharomyces pombe	1402	1061300		Fungi
Spo05	Schizosaccharomyces pombe	1033	1723470		Fungi
Spo07	Schizosaccharomyces pombe	1367	74675966		Fungi
Spo10	Schizosaccharomyces pombe	1258	74676180		Fungi
Spo14	Schizosaccharomyces pombe	1563	67989878		Fungi
Tbr09	Trypanosoma brucei TREU927	1128	71755005		Euglenozoa
Tbr10	Trypanosoma brucei TREU927	1569	74025584		Euglenozoa
Tbr11	Trypanosoma brucei TREU927	1196	72390357		Euglenozoa
Tbr13	Trypanosoma brucei TREU927	1080	72387754		Euglenozoa
Tcr02	Trypanosoma cruzi strain CL Brener	1143	71657582		Euglenozoa
Tcr03	Trypanosoma cruzi strain CL Brener	1099	71414052		Euglenozoa
Tcr05	Trypanosoma cruzi strain CL Brener	1356	71418452		Euglenozoa
Tcr11	Trypanosoma cruzi strain CL Brener	1259	71655681		Euglenozoa
Tcr12	Trypanosoma cruzi strain CL Brener	1217	71661096		Euglenozoa
Tcr15	Trypanosoma cruzi strain CL Brener	1099	71649438		Euglenozoa
Tcr17	Trypanosoma cruzi strain CL Brener	1217	71664186		Euglenozoa
Tpa03	Theileria parva strain Muguga	1280	71031394		Alveolata
Tpa06	Theileria parva strain Muguga	1405	71027725		Alveolata
Tps06	Thalassiosira pseudonana CCMP1335	1047		ORF05537	Protozoan
Tth121	Tetrahymena thermophila SB210	1218	118375344		Alveolata
Tth127	Tetrahymena thermophila SB210	1102	146182088		Alveolata
Tth129	Tetrahymena thermophila SB210	1223	118395638		Alveolata
Tth130	Tetrahymena thermophila SB210	1343	118355212		Alveolata
Tth132	Tetrahymena thermophila SB210	950	118389866		Alveolata
Tth133	Tetrahymena thermophila SB210	1576	146182285		Alveolata
Tth134	Tetrahymena thermophila SB210	1334	146186057		Alveolata
Tth136	Tetrahymena thermophila SB210	1078	118352606		Alveolata
Tth140	Tetrahymena thermophila SB210	1190	118374383		Alveolata
Tth141	Tetrahymena thermophila SB210	1224	118359740		Alveolata
Tth142	Tetrahymena thermophila SB210	1552	118387373		Alveolata
Tth147	Tetrahymena thermophila SB210	1270	146180724		Alveolata
Tth148	Tetrahymena thermophila SB210	981	118400359		Alveolata
Tth39	Tetrahymena thermophila SB210	1451	118384279		Alveolata
Tth40	Tetrahymena thermophila SB210	1149	118384044		Alveolata

	Tth41	Tetrahymena thermophila SB210	1182	118399195		Alveolata
	Tth45	Tetrahymena thermophila SB210	1196	118375023		Alveolata
	Tth46	Tetrahymena thermophila SB210	1180	118388223		Alveolata
	Tth48	Tetrahymena thermophila SB210	2243	118401249		Alveolata
	Tth50	Tetrahymena thermophila SB210	3047	118374377		Alveolata
	Tth51	Tetrahymena thermophila SB210	1172	118374381		Alveolata
	Tth56	Tetrahymena thermophila SB210	1341	118386603		Alveolata
	Tth61	Tetrahymena thermophila SB210	2814	118360224		Alveolata
9	3.A.3.9.1	Saccharomyces cerevisiae	1091	6320245		Fungi
	Afu04	Aspergillus fumigatus	1079	74669379		Fungi
	Afu07	Aspergillus fumigatus	1048	74671437		Fungi
	Afu14	Aspergillus fumigatus	1060	74667478		Fungi
	Ani03	Aspergillus nidulans FGSC A4	1062	67522342		Fungi
	Ani15	Aspergillus nidulans FGSC A4	1066	67540944		Fungi
	Ani17	Aspergillus nidulans FGSC A4	1413	67901354		Fungi
	Aor04	Aspergillus oryzae	1074	83771988		Fungi
	Aor08	Aspergillus oryzae	1100	83764878		Fungi
	Aor09	Aspergillus oryzae	1054	83768985		Fungi
	Cne06	Cryptococcus neoformans var. neoform	1090	58258801		Fungi
	Cpo04	Coccidioides posadasii C735	1046		12.m08169	Fungi
	Cpo15	Coccidioides posadasii C735	1148		67.m09132	Fungi
	Cpo16	Coccidioides posadasii C735	1091		67.m09431	Fungi
	Ehi01	Entamoeba histolytica HM-1:IMSS	1137	67484672		Entamoebidae
	Lma08	Leishmania major strain Friedlin	1109	72547906		Euglenozoa
	Ncr11	Neurospora crassa OR74A	1121	32407810		Fungi
	Ncr16	Neurospora crassa OR74A	1109	85106107		Fungi
	Ncr19	Neurospora crassa OR74A	1093	6688837		Fungi
	Sce18	Saccharomyces cerevisiae	1092	6320243		Fungi
	Spo01	Schizosaccharomyces pombe	1037	114303		Fungi
	Tbr05	Trypanosoma brucei TREU927	1041	71746252		Euglenozoa
	Tcr10	Trypanosoma cruzi strain CL Brener	1039	71657867		Euglenozoa
	Tps04	Thalassiosira pseudonana CCMP1335	919		ORF04964	Protozoan

*Accession number from Transport DB (www.membranetransport.org)

**Accession number from Functional Genomics of Plant Transporters database (<http://plantst.genomics.purdue.edu>)