

Table S1. Number, average charge, and SEM in charge of entire proteins in each classification

Classification	All species						<i>H. sapiens</i>						<i>D. melanogaster</i>					
	N-term		IDRs		SDs		N-term		IDRs		SDs		N-term		IDRs		SDs	
	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM
All	20282	0.0047	0.0020	0.0007	0.0073	0.0003	8464	0.0021	0.0032	0.0009	0.0079	0.0005	1415	0.0065	0.0041	0.0025	0.0112	0.0012
Nucleus	5212	-0.0040	-0.0150	0.0013	0.0246	0.0008	1928	-0.0108	-0.0114	0.0020	0.0323	0.0013	434	-0.0044	-0.0170	0.0043	0.0300	0.0027
DNA-binding	1255	0.0016	-0.0262	0.0016	0.0607	0.0017	450	-0.0108	-0.0231	0.0027	0.0737	0.0031	116	-0.0105	-0.0241	0.0034	0.0728	0.0057
Non-DNA-binding	3957	-0.0058	-0.0114	0.0016	0.0132	0.0008	1478	-0.0108	-0.0078	0.0024	0.0197	0.0012	318	-0.0022	-0.0144	0.0057	0.0144	0.0026
Nucleus and cytoplasm	1817	-0.0091	-0.0256	0.0023	-0.0035	0.0010	660	-0.0085	-0.0232	0.0033	-0.0011	0.0015	84	-0.0115	-0.0222	0.0118	0.0050	0.0055
Cytoplasm	3221	-0.0035	-0.0079	0.0018	-0.0057	0.0007	1345	-0.0059	-0.0115	0.0023	-0.0094	0.0009	192	-0.0102	-0.0031	0.0080	-0.0066	0.0025
Plasma membrane	5430	0.0029	0.0073	0.0011	0.0030	0.0004	2679	0.0017	0.0089	0.0015	0.0018	0.0005	321	0.0102	0.0152	0.0044	0.0051	0.0014
ER/Golgi	1543	0.0082	0.0154	0.0023	0.0032	0.0010	883	0.0125	0.0159	0.0032	0.0071	0.0013	130	-0.0057	0.0002	0.0067	0.0044	0.0037
Secreted	1389	0.0129	0.0128	0.0027	0.0014	0.0008	506	0.0167	0.0210	0.0041	0.0038	0.0012	136	0.0301	0.0276	0.0095	0.0019	0.0018
Mitochondria	1677	0.0591	0.0645	0.0022	0.0127	0.0011	464	0.0578	0.0678	0.0040	0.0113	0.0020	119	0.0601	0.0587	0.0074	0.0105	0.0039
Classification	<i>C. elegans</i>						<i>A. thaliana</i>						<i>O. sativa</i>					
	N-term		IDRs		SDs		N-term		IDRs		SDs		N-term		IDRs		SDs	
	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM
All	1344	0.0040	0.0015	0.0026	0.0070	0.0010	2697	0.0076	0.0041	0.0018	0.0115	0.0009	527	0.0063	0.0026	0.0044	0.0079	0.0018
Nucleus	388	0.0063	-0.0137	0.0053	0.0173	0.0025	816	-0.0002	-0.0253	0.0029	0.0391	0.0021	175	0.0061	-0.0016	0.0065	0.0267	0.0039
DNA-binding	141	0.0275	-0.0258	0.0043	0.0444	0.0036	362	-0.0050	-0.0400	0.0024	0.0649	0.0028	31	-0.0035	-0.0250	0.0064	0.0193	0.0090
Non-DNA-binding	247	-0.0053	-0.0068	0.0078	0.0018	0.0029	454	0.0034	-0.0136	0.0047	0.0186	0.0028	144	0.0082	0.0035	0.0077	0.0283	0.0043
Nucleus and cytoplasm	43	-0.0168	-0.0421	0.0198	-0.0041	0.0051	86	-0.0063	-0.0360	0.0092	0.0063	0.0054	19	-0.0130	-0.0919	0.0205	-0.0154	0.0069
Cytoplasm	184	-0.0094	-0.0031	0.0073	-0.0047	0.0024	297	-0.0038	-0.0097	0.0077	-0.0024	0.0025	80	-0.0057	0.0136	0.0165	-0.0056	0.0044
Plasma membrane	428	0.0010	0.0038	0.0039	0.0079	0.0012	928	0.0100	0.0167	0.0029	-0.0001	0.0009	131	0.0094	0.0085	0.0072	0.0012	0.0023
ER/Golgi	107	0.0038	0.0138	0.0068	-0.0040	0.0039	262	0.0083	0.0337	0.0054	0.0027	0.0015	96	0.0054	0.0024	0.0083	0.0006	0.0029
Secreted	69	0.0035	-0.0132	0.0128	-0.0040	0.0030	130	0.0182	0.0156	0.0088	0.0022	0.0023	10	0.0418	-0.0197	0.0378	-0.0066	0.0090
Mitochondria	126	0.0399	0.0592	0.0066	0.0084	0.0034	179	0.0524	0.0635	0.0050	-0.0087	0.0028	17	0.0625	0.0677	0.0209	0.0034	0.0077
Classification	<i>S. pombe</i>						<i>S. cerevisiae</i>											
	N-term		IDRs		SDs		N-term											
	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM						
All	2329	0.0053	-0.0007	0.0020	0.0017	0.0009	3506	0.0078	-0.0018	0.0018	0.0048	0.0008						
Nucleus	588	-0.0015	-0.0117	0.0041	0.0036	0.0018	883	-0.0009	-0.0176	0.0033	0.0086	0.0015						
DNA-binding	46	0.0274	-0.0006	0.0105	0.0301	0.0070	109	0.0446	-0.0067	0.0086	0.0264	0.0048						
Non-DNA-binding	542	-0.0039	-0.0126	0.0044	0.0014	0.0018	774	-0.0070	-0.0191	0.0036	0.0061	0.0016						
Nucleus and cytoplasm	458	-0.0091	-0.0268	0.0043	-0.0097	0.0021	467	-0.0090	-0.0221	0.0055	-0.0036	0.0021						
Cytoplasm	448	-0.0027	-0.0042	0.0043	-0.0058	0.0017	675	0.0046	-0.0075	0.0044	0.0004	0.0021						
Plasma membrane	300	-0.0076	-0.0081	0.0047	0.0083	0.0019	643	-0.0008	-0.0077	0.0035	0.0066	0.0014						
ER/Golgi	20	0.0000	-0.0115	0.0226	-0.0302	0.0064	45	-0.0176	-0.0126	0.0110	-0.0375	0.0066						
Secreted	223	0.0095	0.0134	0.0070	0.0005	0.0022	315	-0.0001	-0.0015	0.0056	-0.0009	0.0019						
Mitochondria	293	0.0658	0.0655	0.0052	0.0235	0.0028	479	0.0633	0.0639	0.0046	0.0175	0.0023						

Table S2. Number, average charge, and SEM in charge of mature proteins in each classification

Classification	All species						<i>H. sapiens</i>						<i>D. melanogaster</i>					
	N-term		IDRs		SDs		N-term		IDRs		SDs		N-term		IDRs		SDs	
	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM
All	19211	-0.0014	-0.0045	0.0007	0.0070	0.0003	8076	-0.0040	-0.0024	0.0010	0.0074	0.0005	1301	0.0007	-0.0009	0.0027	0.0113	0.0012
Nucleus	5201	-0.0043	-0.0151	0.0013	0.0247	0.0008	1922	-0.0112	-0.0115	0.0020	0.0325	0.0013	431	-0.0045	-0.0172	0.0043	0.0302	0.0027
DNA-binding	1255	0.0015	-0.0261	0.0016	0.0607	0.0017	450	-0.0109	-0.0231	0.0027	0.0737	0.0031	116	-0.0104	-0.0241	0.0034	0.0728	0.0057
Non-DNA-binding	3946	-0.0060	-0.0116	0.0016	0.0132	0.0008	1472	-0.0113	-0.0080	0.0024	0.0199	0.0012	315	-0.0023	-0.0146	0.0058	0.0146	0.0026
Nucleus and cytoplasm	1797	-0.0091	-0.0264	0.0024	-0.0036	0.0010	653	-0.0085	-0.0241	0.0034	-0.0012	0.0015	83	-0.0115	-0.0221	0.0120	0.0051	0.0056
Cytoplasm	3189	-0.0042	-0.0086	0.0018	-0.0060	0.0007	1328	-0.0067	-0.0125	0.0024	-0.0098	0.0009	191	-0.0108	-0.0022	0.0084	-0.0071	0.0024
Plasma membrane	5332	-0.0031	0.0041	0.0012	0.0026	0.0004	2645	-0.0052	0.0061	0.0015	0.0013	0.0006	316	0.0044	0.0141	0.0045	0.0054	0.0014
ER/Golgi	1371	-0.0023	0.0091	0.0029	0.0011	0.0008	493	0.0029	0.0169	0.0044	0.0036	0.0012	135	-0.0114	0.0261	0.0097	0.0018	0.0019
Secreted	1177	0.0094	0.0017	0.0033	-0.0010	0.0012	699	0.0135	0.0025	0.0045	0.0033	0.0017	82	0.0280	-0.0085	0.0103	-0.0011	0.0053
Mitochondria	1151	0.0244	0.0263	0.0030	0.0153	0.0013	337	0.0164	0.0263	0.0057	0.0111	0.0021	64	0.0237	0.0190	0.0116	0.0112	0.0042
Classification	<i>C. elegans</i>						<i>A. thaliana</i>						<i>O. sativa</i>					
	N-term		IDRs		SDs		N-term		IDRs		SDs		N-term		IDRs		SDs	
	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM
All	1256	-0.0008	-0.0051	0.0027	0.0071	0.0011	2518	0.0003	-0.0046	0.0020	0.0121	0.0010	492	-0.0001	-0.0054	0.0047	0.0084	0.0019
Nucleus	388	0.0063	-0.0135	0.0053	0.0173	0.0025	816	-0.0002	-0.0252	0.0029	0.0391	0.0021	175	0.0061	-0.0016	0.0065	0.0267	0.0039
DNA-binding	141	0.0275	-0.0258	0.0043	0.0444	0.0036	362	-0.0050	-0.0400	0.0024	0.0649	0.0028	31	-0.0035	-0.0250	0.0064	0.0193	0.0090
Non-DNA-binding	247	-0.0053	-0.0065	0.0079	0.0018	0.0029	454	0.0036	-0.0135	0.0047	0.0186	0.0028	144	0.0082	0.0035	0.0077	0.0283	0.0043
Nucleus and cytoplasm	43	-0.0168	-0.0421	0.0198	-0.0041	0.0051	86	-0.0050	-0.0418	0.0102	0.0063	0.0054	19	-0.0130	-0.0919	0.0205	-0.0154	0.0069
Cytoplasm	183	-0.0097	-0.0031	0.0076	-0.0046	0.0024	294	-0.0045	-0.0097	0.0080	-0.0024	0.0025	79	-0.0064	0.0136	0.0170	-0.0044	0.0042
Plasma membrane	423	-0.0030	0.0012	0.0039	0.0079	0.0013	886	0.0024	0.0092	0.0032	-0.0009	0.0009	122	-0.0017	0.0040	0.0080	0.0003	0.0024
ER/Golgi	69	-0.0044	-0.0212	0.0144	-0.0042	0.0030	129	-0.0054	0.0129	0.0095	0.0015	0.0024	10	-0.0050	-0.0268	0.0435	-0.0070	0.0093
Secreted	86	-0.0007	0.0069	0.0082	-0.0099	0.0037	179	0.0140	0.0226	0.0083	0.0005	0.0018	77	0.0398	-0.0249	0.0110	-0.0006	0.0035
Mitochondria	65	0.0174	0.0243	0.0104	0.0163	0.0054	129	0.0039	0.0132	0.0075	-0.0051	0.0033	11	0.0032	-0.0031	0.0216	0.0160	0.0098
Classification	<i>S. pombe</i>						<i>S. cerevisiae</i>											
	N-term		IDRs		SDs		N-term				SDs							
	Number	avg	Avg	SEM	Avg	SEM	Number	avg	Avg	SEM	Avg	SEM						
All	2204	-0.0003	-0.0072	0.0021	0.0008	0.0009	3364	0.0017	-0.0089	0.0019	0.0044	0.0008						
Nucleus	588	-0.0016	-0.0120	0.0041	0.0036	0.0018	881	-0.0013	-0.0178	0.0034	0.0086	0.0015						
DNA-binding	46	0.0274	-0.0002	0.0108	0.0301	0.0070	109	0.0438	-0.0065	0.0087	0.0264	0.0048						
Non-DNA-binding	542	-0.0039	-0.0129	0.0044	0.0014	0.0018	772	-0.0074	-0.0194	0.0036	0.0060	0.0016						
Nucleus and cytoplasm	454	-0.0091	-0.0274	0.0044	-0.0097	0.0021	459	-0.0093	-0.0225	0.0057	-0.0038	0.0021						
Cytoplasm	443	-0.0033	-0.0053	0.0043	-0.0063	0.0016	671	0.0040	-0.0087	0.0045	-0.0004	0.0021						
Plasma membrane	300	-0.0103	-0.0092	0.0048	0.0079	0.0019	640	-0.0033	-0.0080	0.0036	0.0063	0.0014						
ER/Golgi	222	-0.0141	0.0116	0.0073	0.0002	0.0022	313	-0.0445	-0.0059	0.0060	-0.0011	0.0020						
Secreted	19	0.0047	-0.0124	0.0239	-0.0357	0.0061	35	-0.0035	-0.0450	0.0131	-0.0538	0.0059						
Mitochondria	179	0.0439	0.0356	0.0073	0.0289	0.0035	366	0.0329	0.0289	0.0057	0.0201	0.0026						