

COG totals<sup>2</sup> by category sorted by genome size

organism <sup>1</sup>	size (Mb)	C. Energy production and conversion	D. Cell division and chromosome partitioning	E. Amino acid transport and metabolism	F. Nucleotide transport and metabolism	G. Carbohydrate transport and metabolism	H. Coenzyme metabolism	I. Lipid metabolism	J. Translation, ribosomal structure and biogenesis	K. Transcription	L. DNA replication, recombination and repair	M. Cell envelope biogenesis, outer membrane	N. Cell motility and secretion	O. Posttranslational modification, protein turnover, chaperones	P. Inorganic ion transport and metabolism	Q. Secondary metabolites biosynthesis transport and catabolism	R. General function prediction only	S. Function unknown	T. Signal transduction mechanisms
Cda	15.00	205	23	451	100	255	156	121	309	148	197	51	14	192	241	153	685	65	173
Sce	13.00	160	21	318	88	206	135	77	359	162	182	33	11	179	173	93	531	55	176
Mlo	7.59	335	32	786	92	576	219	200	200	583	294	256	142	175	352	287	830	311	286
Sme	6.68	335	38	673	100	570	198	141	198	515	238	248	129	150	362	238	749	291	208
Pae	6.30	336	31	581	103	253	211	207	197	491	157	248	234	174	359	262	728	408	339
Atu	5.68	245	34	638	91	463	186	120	182	455	162	198	125	115	354	199	640	238	192
EcZ	5.50	298	30	447	94	386	175	96	179	312	314	232	183	142	312	121	523	314	207
Eco	4.60	298	30	449	94	391	164	94	178	297	228	209	158	125	294	105	496	282	189
Mtu	4.40	223	29	227	74	139	147	234	149	199	194	128	32	93	154	246	498	179	127
Bsu	4.20	187	32	386	91	303	152	92	165	307	140	173	96	94	232	175	512	225	153
Bha	4.20	181	33	339	80	290	148	96	167	304	236	129	97	95	217	126	478	236	160
Ccr	4.01	172	22	254	68	167	116	153	166	231	142	174	134	113	193	150	425	182	214
Vch	4.00	188	31	317	79	203	162	75	183	231	172	150	204	120	193	97	376	275	265
Syn	3.57	153	21	194	64	121	133	49	152	103	181	170	65	119	166	86	351	175	277
Dra	3.28	149	29	278	79	129	113	93	160	163	175	98	46	99	156	98	404	208	137
Mle	3.26	78	19	137	58	69	84	90	125	69	71	66	22	59	56	66	151	64	43
Xia	2.68	96	27	138	47	84	90	43	141	95	150	131	102	89	68	55	217	133	71
Hbs	2.57	134	24	154	61	111	55	143	132	171	51	58	84	129	50	299	162	68	
Pmu	2.40	123	23	196	64	162	124	46	154	94	108	139	48	85	127	42	237	172	53
Lia	2.36	69	15	198	76	167	74	45	148	162	173	93	25	43	109	57	263	115	43
Nme	2.27	123	23	154	53	66	96	46	156	70	150	132	61	73	84	36	191	144	31
NmA	2.18	120	24	155	53	67	94	41	152	69	164	127	48	71	85	33	194	147	29
Afu	2.18	235	14	180	49	61	117	113	152	101	89	49	34	58	103	48	367	255	101
Spy	1.85	59	13	115	65	132	49	43	145	114	110	58	26	45	70	36	173	88	39
Hin	1.83	101	22	187	62	116	97	43	153	84	121	119	46	84	103	34	187	153	44
Tma	1.80	120	18	203	54	163	59	26	134	80	79	66	78	45	141	42	249	138	64
Pho	1.80	109	17	131	47	86	67	19	156	80	93	50	42	41	93	34	289	201	24
Pab	1.80	130	17	157	52	85	78	19	157	83	93	54	42	44	116	32	313	189	22
Mth	1.75	177	10	114	53	46	101	26	143	66	76	54	15	57	81	16	247	194	56
Ape	1.67	113	4	153	37	62	70	38	152	67	63	25	21	49	73	32	225	119	16
Hpv	1.66	72	20	103	39	40	77	40	121	33	117	93	86	62	58	23	138	74	19
Mja	1.66	144	18	112	49	48	93	17	148	66	122	35	32	41	66	12	242	214	11
JHp	1.64	72	20	102	39	40	78	39	121	34	99	90	85	63	58	22	141	71	19
Cje	1.64	107	16	160	50	56	89	35	129	47	74	123	91	65	92	42	193	92	38
Tvo	1.58	121	8	175	46	107	82	47	136	71	120	44	21	41	96	32	236	119	11
Tac	1.56	120	7	186	48	116	89	48	136	77	75	38	22	36	103	41	255	114	10
Aae	1.50	120	18	120	53	48	94	45	142	45	73	96	79	70	70	35	197	107	60
Bbu	1.44	25	34	33	28	57	12	15	118	24	58	44	70	31	29	9	88	55	25
Cpn	1.23	44	9	60	23	35	43	29	118	24	58	36	41	32	35	8	81	30	18
Tpa	1.14	39	12	26	23	42	23	19	119	30	62	60	64	42	20	6	105	50	29
Rpr	1.10	75	13	46	17	27	29	31	126	23	60	66	36	48	40	21	93	35	15
Ctr	1.05	45	9	56	16	35	38	34	115	25	58	36	41	32	33	7	76	28	18
Mpn	0.81	22	5	29	21	42	16	9	106	17	59	10	9	19	27	6	55	14	7
Uur	0.75	18	4	20	21	17	22	8	105	20	57	4	13	19	34	8	45	20	4
Buc	0.64	48	10	76	30	34	42	14	119	19	43	27	42	35	20	6	40	21	6
Mge	0.58	21	5	18	21	33	16	9	105	17	43	10	9	19	25	5	47	12	5

1. A. tumefaciens C58 (Atu), S. meliloti (Sme), M. loti (Mlo). All other three letter organism descriptions are available from NCBI (<http://ncbi.nlm.nih.gov/pub/COG/org.txt>). Names for eubacteria are highlighted in blue, Archea in purple, and eukaryotes in green.  
 2. COG totals for alpha proteobacteria are highlighted in tan