

- 1 Table S9 List of genomes for contamination check
- 2 *Acanthamoeba castellanii*
- 3 *Aplanochytrium kerguelense*
- 4 *Arabidopsis thaliana*
- 5 *Aurantiochytrium limacinum*
- 6 *Batrachochytrium dendrobatidis*
- 7 *Bigelowiella natans*
- 8 *Blastocystis hominis*
- 9 *Bodo saltans*
- 10 *Caenorhabditis elegans*
- 11 *Capsaspora owczarzaki*
- 12 *Chlamydomonas reinhardtii*
- 13 *Chondrus crispus*
- 14 *Chromera velia*
- 15 *Ciona intestinalis*
- 16 *Cryptococcus neoformans*
- 17 *Cryptosporidium parvum*
- 18 *Cyanidioschyzon merolae*
- 19 *Cyanophora paradoxa*
- 20 *Dictyostelium discoideum*
- 21 *Drosophila melanogaster*
- 22 *Ectocarpus siliculosus*
- 23 *Emiliana huxleyi*
- 24 *Entamoeba histolytica*
- 25 *Fonticula alba*
- 26 *Giardia intestinalis*
- 27 *Guillardia theta*
- 28 *Homo sapiens*
- 29 *Hyaloperonospora arabidopsidis*
- 30 *Klebsormidium flaccidum*
- 31 *Laccaria bicolor*

- 32 *Mastigamoeba balamuthi*
- 33 *Monocercomonoides* sp.
- 34 *Monosiga brevicollis*
- 35 *Mortierella verticillata*
- 36 *Mus musculus*
- 37 *Naegleria gruberi*
- 38 *Nannochloropsis gaditana*
- 39 *Neurospora crassa*
- 40 *Ostreococcus lucimarinus*
- 41 *Perkinsus marinus*
- 42 *Phaeodactylum tricornutum*
- 43 *Physcomitrella patens*
- 44 *Phytophthora ramorum*
- 45 *Plasmodium falciparum*
- 46 *Populus trichocarpa*
- 47 *Porphyridium purpureum*
- 48 *Reticulomyxa filosa*
- 49 *Rhizophagus irregularis*
- 50 *Rozella allomycis*
- 51 *Saccharomyces cerevisiae*
- 52 *Salpingoeca rosetta*
- 53 *Schizosaccharomyces pombe*
- 54 *Sphaeroforma arctica*
- 55 *Symbiodinium minutum*
- 56 *Takifugu rubripes*
- 57 *Tetrahymena thermophila*
- 58 *Thalassiosira pseudonana*
- 59 *Thecamonas trahens*
- 60 *Toxoplasma gondii*
- 61 *Trichomonas vaginalis*
- 62 *Trichoplax adhaerens*

- 63 *Trypanosoma brucei*
- 64 *Tuber melanosporum*
- 65 *Ustilago maydis*
- 66 *Vitrella brassicaformis*
- 67 *Acidianus hospitalis* W1
- 68 *Acidilobus saccharovorans* 345-15
- 69 *Aciduliprofundum boonei* T469
- 70 *Aeropyrum pernix* K1
- 71 *Archaeoglobus fulgidus* DSM 4304
- 72 archaeon Loki
- 73 *Caldisphaera lagunensis* DSM 15908
- 74 *Caldivirga maquilingensis* IC-167
- 75 Candidatus *Caldiarchaum subterraneum*
- 76 Candidatus *Korarchaeum cryptofilum* OPF8
- 77 Candidatus *Micrarchaeum acidiphilum* ARMAN-2
- 78 Candidatus *Nanosalina* sp. J07AB43
- 79 Candidatus *Nanosalinarum* sp. J07AB56
- 80 Candidatus *Nitrosopelagicus brevis*
- 81 Candidatus *Parvarchaeum acidophilus*
- 82 *Cenarchaeum symbiosum* A
- 83 *Desulfurococcus fermentans* DSM 16532
- 84 *Ferroglobus placidus* DSM 10642
- 85 *Ferroplasma acidarmanus* fer1
- 86 *Fervidicoccus fontis* Kam940
- 87 *Halalkalicoccus jeotgali* B3
- 88 *Haloarcula hispanica* ATCC 33960
- 89 *Halobacterium salinarum* R1
- 90 *Haloferax mediterranei* ATCC 33500
- 91 *Halogeometricum borinquense* DSM 11551
- 92 *Halomicrobium mukohataei* DSM 12286
- 93 *Halopiger xanaduensis* SH-6

- 94 *Haloquadratum walsbyi* DSM 16790
- 95 *Halorhabdus utahensis* DSM 12940
- 96 *Halorubrum lacusprofundi* ATCC 49239
- 97 *Haloterrigena turkmenica* DSM 5511
- 98 *Halovivax ruber* XH-70
- 99 *Hyperthermus butylicus* DSM 5456
- 100 *Ignicoccus hospitalis* KIN4/I
- 101 *Ignisphaera aggregans* DSM 17230
- 102 *Metallosphaera sedula* DSM 5348
- 103 *Methanobacterium formicicum* DSM 3637
- 104 *Methanobrevibacter ruminantium* M1
- 105 *Methanobrevibacter* sp. AbM4
- 106 *Methanocaldococcus fervens* AG86
- 107 *Methanocella conradii* HZ254
- 108 *Methanococcoides burtonii* DSM 6242
- 109 *Methanococcus maripaludis* S2
- 110 *Methanocorpusculum labreanum* Z
- 111 *Methanoculleus bourgensis* MS2
- 112 *Methanofollis liminatans* DSM 4140
- 113 *Methanohalobium evestigatum* Z-7303
- 114 *Methanohalophilus mahii* DSM 5219
- 115 *Methanlobus psychrophilus* R15
- 116 *Methanomethylovorans hollandica* DSM 15978
- 117 *Methanoplanus limicola* DSM 2279
- 118 *Methanopyrus kandleri* AV19
- 119 *Methanoregula formicicum* SMSP
- 120 *Methanosaeta thermophila* PT
- 121 *Methanosalsum zhilinae* DSM 4017
- 122 *Methanosarcina acetivorans* C2A
- 123 *Methanosphaera stadtmanae* DSM 3091
- 124 *Methanosphaerula palustris* E1-9c

- 125 *Methanospirillum hungatei* JF-1
- 126 *Methanothermobacter marburgensis* str. Marburg
- 127 *Methanothermococcus okinawensis* IH1
- 128 *Methanothermus fervidus* DSM 2088
- 129 *Methanotorris igneus* Kol 5
- 130 *Nanoarchaeum equitans* Kin4-M
- 131 *Natrialba magadii* ATCC 43099
- 132 *Natrinema pellirubrum* DSM 15624
- 133 *Natronobacterium gregoryi* SP2
- 134 *Natronococcus occultus* SP4
- 135 *Natronomonas pharaonis* DSM 2160
- 136 *Nitrosopumilus maritimus* SCM1
- 137 *Picrophilus torridus* DSM 9790
- 138 *Pyrobaculum arsenaticum* DSM 13514
- 139 *Pyrococcus yayanosii* CH1
- 140 *Pyrolobus fumarii* 1A
- 141 *Salinarchaeum* sp. Harcht-Bsk1
- 142 *Staphylothermus hellenicus* DSM 12710
- 143 *Sulfolobus islandicus* M.14.25
- 144 *Thermococcus barophilus* MP
- 145 *Thermofilum pendens* Hrk 5
- 146 *Thermogladius cellulolyticus* 1633
- 147 *Thermoplasma acidophilum* DSM 1728
- 148 *Thermoplasmatales archaeon* BRNA1
- 149 *Thermoproteus uzoniensis* 768-20
- 150 *Thermosphaera aggregans* DSM 11486
- 151 *Vulcanisaeta distributa* DSM 14429
- 152 *Agrobacterium fabrum* str. C58
- 153 *Amycolatopsis mediterranei* U32
- 154 *Aquifex aeolicus* VF5
- 155 *Azotobacter vinelandii* CA

- 156 *Azotobacter vinelandii* DJ
- 157 *Bacillus anthracis* str. Ames
- 158 *Bacillus anthracis* str. Sterne
- 159 *Bacillus cereus* ATCC 14579
- 160 *Bacillus subtilis* subsp. *subtilis* str. 168
- 161 *Bacillus thuringiensis* serovar *konkukian* str. 97-27
- 162 *Bacteroides thetaiotaomicron* VPI-5482
- 163 *Bifidobacterium longum* NCC2705
- 164 *Bordetella pertussis* Tohama I
- 165 *Borrelia burgdorferi* B31
- 166 *Bradyrhizobium diazoefficiens* USDA 110
- 167 *Burkholderia cenocepacia*
- 168 *Burkholderia dolosa*
- 169 *Burkholderia pseudomallei* K96243
- 170 *Campylobacter jejuni* subsp. *jejuni* NCTC 11168 = ATCC 700819
- 171 *Caulobacter crescentus* CB15
- 172 *Chlamydia trachomatis* 434/Bu
- 173 *Chlamydomydia pneumoniae* CWL029
- 174 *Chlorobium tepidum* TLS
- 175 *Chloroflexus aurantiacus* J-10-fl
- 176 *Clostridium acetobutylicum* ATCC 824
- 177 *Clostridium botulinum* A str. Hall
- 178 *Clostridium difficile* 630
- 179 *Corynebacterium glutamicum* ATCC 13032
- 180 *Coxiella burnetii* RSA 493
- 181 *Deinococcus radiodurans* R1
- 182 *Desulfovibrio vulgaris* str. Hildenborough
- 183 *Dictyoglomus turgidum* DSM 6724
- 184 *Enterobacter cloacae* subsp. *cloacae* ATCC 13047
- 185 *Enterococcus faecalis* V583
- 186 *Escherichia coli* IA139

- 187 *Escherichia coli* O104 H4 str. 2011C-3493
- 188 *Escherichia coli* O157 H7 str. Sakai
- 189 *Escherichia coli* O83 H1 str. NRG 857C
- 190 *Escherichia coli* str. K-12 substr. MG1655
- 191 *Escherichia coli* UMN026
- 192 *Flavobacterium psychrophilum* JIP02/86
- 193 *Francisella tularensis* subsp. *tularensis* SCHU S4
- 194 *Fusobacterium nucleatum* subsp. *nucleatum* ATCC 25586
- 195 *Geobacter sulfurreducens* PCA
- 196 *Gloeobacter violaceus* PCC 7421
- 197 *Haemophilus influenzae* Rd KW20
- 198 *Helicobacter pylori* 26695
- 199 *Ketogulonicigenium vulgare* WSH-001
- 200 *Klebsiella pneumoniae* subsp. *pneumoniae* HS11286
- 201 *Lactobacillus acidophilus* NCFM
- 202 *Lactobacillus plantarum* WCFS1
- 203 *Lactobacillus salivarius* UCC118
- 204 *Lactococcus lactis* subsp. *lactis* II1403
- 205 *Listeria monocytogenes* EGD-e
- 206 *Moorella thermoacetica* ATCC 39073
- 207 *Mycobacterium bovis* AF2122/97
- 208 *Mycobacterium leprae* TN
- 209 *Mycoplasma mycoides* subsp. *mycoides* SC str. PG1
- 210 *Pseudomonas aeruginosa* PAO1
- 211 *Rhodobacter sphaeroides* 2.4.1
- 212 *Rhodopirellula baltica* SH 1
- 213 *Rhodospirillum rubrum* ATCC 11170
- 214 *Rickettsia prowazekii* str. Madrid E
- 215 *Salinibacter ruber* DSM 13855
- 216 *Salmonella enterica* subsp. *enterica* serovar Typhi str. CT18
- 217 *Shewanella oneidensis* MR-1

- 218 *Shigella dysenteriae* Sd197
- 219 *Shigella flexneri* 2a str. 301
- 220 *Streptococcus pneumoniae* R6
- 221 *Streptococcus suis* BM407
- 222 *Thermanaerovibrio acidaminovorans* DSM 6589
- 223 *Thermodesulfovibrio yellowstonii* DSM 11347
- 224 *Thermosynechococcus elongatus* BP-1
- 225 *Thermotoga maritima* MSB8
- 226 *Vibrio cholerae* O1 biovar El Tor str. N16961
- 227 *Vibrio fischeri* ES114
- 228 *Xanthomonas campestris* pv. *campestris* str. ATCC 33913
- 229 *Yersinia enterocolitica* subsp. *enterocolitica* 8081
- 230 *Yersinia pestis* CO92