

Table S2: List of species with a single representative in the genome database, and where the type strain is the sequenced organism (A). Species names with a single representative in the genome database, but for which the sequenced strain does not correspond to the type strain and there is no guarantee that the sequenced strain represents the named taxon (B). And species names that have never been validly published (C).

A- Species names with a single representative in the genome database, and where the type strain is the sequenced organism:

Actinobacillus succinogenes 130Z
Acholeplasma laidlawii PG-8A
Acidobacterium capsulatum ATCC 51196
Acidothermus cellulolyticus 11B
Aeromonas hydrophila subsp. hydrophila ATCC 7966
Aeropyrum pernix K1
Akkermansia muciniphila ATCC BAA-835
Alcanivorax borkumensis SK2
Alkalilimnicola ehrlichii MLHE-1
Alkaliphilus oremlandii OhILAs
Archaeoglobus fulgidus DSM 4304
Arthrobacter chlorophenolicus A6
Azorhizobium caulinodans ORS 571
Bacillus licheniformis ATCC 14580
Bacteroides thetaiotaomicron VPI-5482
Bacteroides vulgatus ATCC 8482
Bartonella bacilliformis KC583
Bartonella henselae str. Houston-1
Bartonella tribocorum CIP 105476
Bdellovibrio bacteriovorus HD100
Beijerinckia indica subsp. indica ATCC 9039
Beutenbergia cavernae DSM 12333
Bifidobacterium adolescentis ATCC 15703
Bifidobacterium longum subsp. infantis ATCC 15697
Bordetella petrii DSM 12804
Brucella canis ATCC 23365
Brucella melitensis 16M
Brucella ovis ATCC 25840
Brucella suis 1330
Burkholderia phymatum STM815
Burkholderia phytofirmans PsJN
Burkholderia thailandensis E264
Burkholderia xenovorans LB400
Caldicellulosiruptor saccharolyticus DSM 8903
Caldivirga maquilensis IC-167
Campylobacter hominis ATCC BAA
Carboxydotherrmus hydrogenoformans Z-2901
Cellvibrio japonicus Ueda107
Chlamydophila caviae GPIC
Chlorobium limicola DSM 245
Chlorobium tepidum TLS
Chloroflexus aggregans DSM 9485
Chloroflexus aurantiacus J-10-fl
Chloroherpeton thalassium ATCC 35110
Chromobacterium violaceum ATCC 12472
Chromohalobacter salexigens DSM 3043

Clostridium acetobutylicum ATCC 824
Clostridium beijerinckii NCIMB 8052
Clostridium cellulolyticum H10
Clostridium phytofermentans ISDg
Clostridium thermocellum ATCC 27405
Coprothermobacter proteolyticus DSM 5265
Corynebacterium aurimucosum ATCC 700975 (real name *C. nigricans*)
Corynebacterium efficiens YS-314
Corynebacterium kroppenstedtii DSM 44385
Corynebacterium urealyticum DSM 7109
Cytophaga hutchinsonii ATCC 33406
Deinococcus deserti VCD115
Deinococcus geothermalis DSM 11300
Deinococcus radiodurans R1
Desulfobacterium autotrophicum HRM2
Desulfovibrio magneticus RS-1
Desulfotalea psychrophila LSV54
Desulfurococcus kamchatkensis 1221n
Dictyoglomus thermophilum H-6-12
Dictyoglomus turgidum DSM 6724
Dinoroseobacter shibae DFL 12
Ehrlichia chaffeensis str. Arkansas
Erwinia tasmaniensis Et1/99
Eubacterium eligens ATCC 27750
Eubacterium rectale ATCC 33656
Exiguobacterium sibiricum 255-15
Fervidobacterium nodosum Rt17-B1
Francisella novicida U112
Fusobacterium nucleatum subsp. *nucleatum* ATCC 25586
Gemmatimonas aurantiaca T-27
Geobacter bemidjiensis Bem
Geobacter metallireducens GS-15
Geobacter sulfurreducens PCA
Geobacter uraniireducens Rf4
Gloeobacter violaceus PCC 7421
Gluconacetobacter diazotrophicus PAI 5
Granulibacter bethesdensis CGDNIH1
Hahella chejuensis KCTC 2396
Haloarcula marismortui ATCC 43049
Halorhodospira halophila SL1
Halorubrum lacusprofundi ATCC 49239
Halothermothrix orenii H 168
Herpetosiphon aurantiacus ATCC 23779
Hirschia baltica ATCC 49814
Hyperthermus butylicus DSM 5456
Hyphomonas neptunium ATCC 15444
Idiomarina loihiensis L2TR
Ignicoccus hospitalis KIN4/I
Kineococcus radiotolerans SRS30216
Lactobacillus gasseri ATCC 33323
Lactobacillus reuteri DSM 20016
Lactobacillus sakei subsp. *sakei* 23K
Leuconostoc mesenteroides subsp. *mesenteroides* ATCC 8293
Listeria welshimeri serovar 6b str. SLCC5334

Marinobacter aquaeolei VT8
Mesoplasma florum L1
Metallosphaera sedula DSM 5348
Methanobrevibacter smithii ATCC 35061
Methanocaldococcus jannaschii DSM 2661
Methanococcoides burtonii DSM 6242
Methanococcus aeolicus Nankai-3
Methanococcus vannielii SB
Methanocorpusculum labreanum Z
Methanoculleus marisnigri JR1
Methanopyrus kandleri AV19
Methanosaeta thermophila PT
Methanosarcina acetivorans C2A
Methanosphaera stadtmanae DSM 3091
Methanosphaerula palustris E1-9c
Methanospirillum hungatei JF-1
Methanothermobacter thermautotrophicus str. Delta H
Methylibium petroleiphilum PM1
Methylobacillus flagellatus KT
Methylobacterium chloromethanicum CM4
Methylobacterium nodulans ORS 2060
Methylobacterium populi BJ001
Methylobacterium radiotolerans JCM 2831
Methylocella silvestris BL2
Methylothermobacter mobilis JLW8
Micrococcus luteus NCTC 2665
Microcystis aeruginosa NIES-843
Mycobacterium vanbaalenii PYR-1
Mycoplasma agalactiae PG2
Mycoplasma capricolum subsp. capricolum ATCC 27343
Mycoplasma genitalium G37
Mycoplasma mobile 163K
Mycoplasma mycoides subsp. mycoides SC str. PG1
Natranaerobius thermophilus JW/NM-WN-LF
Natronomonas pharaonis DSM 2160
Nautilia profundicola AmH
Neorickettsia risticii str. Illinois
Neorickettsia sennetsu str. Miyayama
Nitrobacter hamburgensis X14
Nitrobacter winogradskyi Nb-255
Nitrosococcus oceani ATCC 19707
Nitrospira multiformis ATCC 25196
Novosphingobium aromaticivorans DSM 12444
Oceanobacillus iheyensis HTE831
Ochrobactrum anthropi ATCC 49188
Oligotropha carboxidovorans OM5
Parabacteroides distasonis ATCC 8503
Parvibaculum lavamentivorans DS-1
Pelobacter carbinolicus DSM 2380
Pelobacter propionicus DSM 2379
Pelodictyon luteolum DSM 273
Pelodictyon phaeoclathratiforme BU-1
Pelotomaculum thermopropionicum SI
Persephonella marina EX-H1

Petrogoba mobilis SJ95
Photorhabdus luminescens subsp. *laumondii* TTO1
Picrophilus torridus DSM 9790
Polaromonas naphthalenivorans CJ2
Prochlorococcus marinus subsp. *marinus* str. CCMP1375
Prosthecochloris aestuarii DSM 271
Psychrobacter arcticus 273-4
Psychrobacter cryohalolentis K5
Psychromonas ingrahamii 37
Pyrobaculum aerophilum str. IM2
Pyrobaculum arsenaticum DSM 13514
Pyrobaculum calidifontis JCM 11548
Pyrobaculum islandicum DSM 4184
Pyrococcus furiosus DSM 3638
Pyrococcus horikoshii OT3
Ralstonia metallidurans CH34
Renibacterium salmoninarum ATCC 33209
Rhodoferax ferrireducens T118
Rhodopirellula baltica SH 1
Rhodospirillum rubrum ATCC 11170
Rickettsia conorii str. Malish 7
Roseiflexus castenholzii DSM 13941
Roseobacter denitrificans OCh 114
Rubrobacter xylanophilus DSM 9941
Ruegeria pomeroyi DSS-3
Saccharophagus degradans 2-40
Saccharopolyspora erythraea NRRL 2338
Salinibacter ruber DSM 13855
Salinispora tropica CNB-440
Sphingomonas wittichii RW1
Sphingopyxis alaskensis RB2256
Shewanella amazonensis SB2B
Shewanella denitrificans OS217
Shewanella halifaxensis HAW-EB4
Shewanella loihica PV-4
Shewanella oneidensis MR-1
Shewanella pealeana ATCC 700345
Shewanella piezotolerans WP3
Shewanella sediminis HAW-EB3
Shewanella woodyi ATCC 51908
Staphylococcus saprophyticus subsp. *saprophyticus* ATCC 15305
Staphylothermus marinus F1
Streptomyces avermitilis MA-4680
Sulfolobus acidocaldarius DSM 639
Sulfolobus tokodaii str. 7
Sulfurihydrogenibium azorense Az
Sulfurimonas denitrificans DSM 1251
Symbiobacterium thermophilum IAM 14863
Syntrophobacter fumaroxidans MPOB
Syntrophomonas wolfei subsp. *wolfei* str. Goettingen
Syntrophus aciditrophicus SB
Thermoanaerobacter pseudethanolicus ATCC 33223
Thermoanaerobacter tengcongensis MB4
Thermococcus gammatolerans EJ3

Thermococcus kodakarensis KOD1
Thermococcus sibiricus MM 739
Thermodesulfovibrio yellowstonii DSM 11347
Thermomicrobium roseum DSM 5159
Thermoplasma acidophilum DSM 1728
Thermoplasma volcanium GSS1
Thermoproteus neutrophilus V24Sta
Thermosipho melanesiensis BI429
Thermotoga lettingae TMO
Thermotoga maritima MSB8
Thermotoga neapolitana DSM 4359
Thermotoga petrophila RKU-1
Tolomonas auensis DSM 9187
Treponema denticola ATCC 35405
Verminephrobacter eiseniae EF01-2
Wolinella succinogenes DSM 1740

B- Species names with a single representative in the genome database, but for which the sequenced strain does not correspond to the type strain, or the strain name given does not match any of the strain numbers given at the Strain Info web site. There is no guarantee that the sequenced strain represents the named taxon:

Aeromonas salmonicida subsp. salmonicida A449
Acidiphilium cryptum JF-5
Acidovorax citrulli AAC00-1
Acidovorax sp. JS42
Acinetobacter sp. ADP1
Agrobacterium radiobacter K84 (Rhizobium radiobacter)
Agrobacterium tumefaciens str. C58
Agrobacterium vitis S4
Aggregatibacter aphrophilus NJ8700
Aliivibrio salmonicida LFI1238
Alteromonas macleodii 'Deep ecotype'
Anabaena variabilis ATCC 29413
Anaplasma phagocytophilum HZ
Anoxybacillus flavithermus WK1
Arcobacter butzleri RM4018
Arthrobacter aurescens TC1
Arthrobacter sp. FB24
Aster yellows witches'-broom phytoplasma AYWB
Azoarcus sp. BH72
Azotobacter vinelandii DJ
Bacillus anthracis str. A0248
Bacillus anthracis str. CDC 684
Bacillus amyloliquefaciens FZB42
Bacillus clausii KSM-K16
Bacillus halodurans C-125
Bacillus pumilus SAFR-032
Bacillus subtilis subsp. subtilis str. 168
Bacillus weihenstephanensis KBAB4
Bartonella grahamii as4aup

Bartonella quintana str. Toulouse
Bifidobacterium animalis subsp. lactis AD011
Bordetella avium 197N
Bordetella bronchiseptica RB50
Bordetella parapertussis 12822
Bordetella pertussis Tohama I
Borrelia afzelii PKo
Borrelia garinii PBi
Brachyspira hyodysenteriae WA1
Bradyrhizobium japonicum USDA 110
Brevibacillus brevis NBRC 100599
Brucella abortus S19 (later heterotypic synonym of B. melitensis)
Brucella abortus bv. 1 str. 9-941 (later heterotypic synonym of B. melitensis)
Brucella melitensis ATCC 23457 biovar 2
Brucella melitensis biovar Abortus 2308
Brucella suis ATCC 23445 (later heterotypic synonym of B. melitensis)
Burkholderia sp. 383
Burkholderia glumae BGR1
Burkholderia vietnamiensis G4
Campylobacter concisus 13826
Campylobacter curvus 525.92
Campylobacter fetus subsp. fetus 82-40
Campylobacter lari RM2100
Chlamydia muridarum Nigg
Chlamydophila abortus S26/3
Chlamydophila felis Fe/C-56
Chlorobaculum parvum NCIB 8327 (in strain info it is labelled as the type of Thiobacillus denitrificans, but according to LPSN it is a wrong label. In any case it seems that it is not corresponding to the name C. parvum)
Citrobacter koseri ATCC BAA-895
Clostridium botulinum Ba4 str. 657
Clostridium difficile 630
Clostridium novyi NT
Clostridium tetani E88
Colwellia psychrerythraea 34H
Corynebacterium diphtheriae NCTC 13129
Corynebacterium jeikeium K411
Cronobacter sakazakii ATCC BAA-894
Cupriavidus taiwanensis
Cyanospora sp. ATCC 51142
Cyanospora sp. PCC 7424
Cyanospora sp. PCC 7425
Cyanospora sp. PCC 8801
Delftia acidovorans SPH-1
Desulfatibacillum alkenivorans AK-01
Diaphorobacter sp. TPSY
Dichelobacter nodosus VCS1703A
Dickeya dadantii Ech703
Dickeya zeae Ech1591
Edwardsiella ictaluri 93-146
Enterobacter sp. 638
Enterococcus faecalis V583
Erythrobacter litoralis HTCC2594

Exiguobacterium sp. AT1b
Finegoldia magna ATCC 29328
Flavobacterium johnsoniae UW101
Flavobacterium psychrophilum JIP02/86
Francisella philomiragia subsp. philomiragia ATCC 25017
Frankia alni ACN14a (no type strain designated in the original description)
Frankia sp. Ccl3
Frankia sp. EAN1pec
Geobacillus kaustophilus HTA426
Geobacillus thermodenitrificans NG80-2
Geobacillus sp. WCH70
Gluconobacter oxydans 621H
Geobacter sp. M21
Haemophilus ducreyi 35000HP
Haemophilus parasuis SH0165
Halobacterium salinarum R1
Halobacterium sp. NRC-1
Haloquadratum walsbyi DSM 16790
Helicobacter acinonychis str. Sheeba
Helicobacter hepaticus ATCC 51449
Herminiimonas arsenicoxydans
Hydrogenobaculum sp. Y04AAS1
Jannaschia sp. CCS1
Janthinobacterium sp. Marseille
Kocuria rhizophila DC2201
Lactobacillus acidophilus NCFM
Lactobacillus brevis ATCC 367
Lactobacillus fermentum IFO 3956
Lactobacillus helveticus DPC 4571
Lactobacillus johnsonii NCC 533
Lactobacillus salivarius UCC118
Laribacter hongkongensis HLHK9
Lawsonia intracellularis PHE/MN1-00
Leifsonia xyli subsp. xyli str. CTCB07
Leptothrix cholodnii SP-6
Leuconostoc citreum KM20
Listeria innocua Clip11262
Lysinibacillus sphaericus C3-41
Macrococcus caseolyticus JCSC5402
Magnetococcus sp. MC-1
Maricaulis maris MCS10
Marinomonas sp. MWYL1
Mesorhizobium loti MAFF303099
Mesorhizobium sp. BNC1
Methanosarcina barkeri str. Fusaro
Methanosarcina mazei Go1
Methylobacterium sp. 4-46
Methylococcus capsulatus str. Bath
Methylovorus sp. SIP3-4
Moorella thermoacetica ATCC 39073
Mycobacterium abscessus
Mycobacterium gilvum PYR-GCK
Mycobacterium marinum M
Mycobacterium smegmatis str. MC2 155

Mycobacterium ulcerans Agy99
Mycoplasma arthritis 158L3-1
Mycoplasma conjunctivae
Mycoplasma gallisepticum R
Mycoplasma penetrans HF-2
Mycoplasma pneumoniae M129
Mycoplasma pulmonis UAB CTIP
Mycoplasma synoviae 53
Myxococcus xanthus DK 1622
Nitratiruptor sp. SB155-2
Nitrosomonas europaea ATCC 19718
Nitrosomonas eutropha C91 (never validly published name according LPSN)
Nocardia farcinica IFM 10152
Nocardioides sp. JS614
Nostoc sp. PCC 7120
Oenococcus oeni PSU-1
Opitutus terrae PB90-1
Paracoccus denitrificans PD1222
Pasteurella multocida subsp. *multocida* str. Pm70
Pectobacterium atrosepticum SCRI1043
Pectobacterium carotovorum subsp. *carotovorum* PC1
Pediococcus pentosaceus ATCC 25745
Photobacterium profundum SS9
Photorhabdus asymbiotica
Polynucleobacter necessarius subsp. *asymbioticus* QLW-P1DMWA-1
Polynucleobacter necessarius subsp. *necessarius* STIR1
Propionibacterium acnes KPA171202
Proteus mirabilis HI4320
Pseudoalteromonas atlantica T6c
Pseudoalteromonas haloplanktis TAC125
Pseudomonas fluorescens SBW25
Pseudomonas mendocina ymp
Pseudomonas stutzeri A1501
Ralstonia solanacearum GMI1000
Rhizobium sp. NGR234
Rhodococcus erythropolis PR4
Rhodococcus jostii RHA1
Rhodococcus opacus B4
Rhodospirillum centenum SW
Rickettsia akari str. Hartford
Rickettsia canadensis str. McKiel
Rickettsia felis URRWXCal2
Rickettsia massiliae MTU5
Rickettsia peacockii str. Rustic
Rickettsia prowazekii str. Madrid E
Rickettsia typhi str. Wilmington
Roseiflexus sp. RS-1
Ruegeria sp. TM1040
Salinispora arenicola CNS-205
Serratia proteamaculans 568
Shewanella frigidimarina NCIMB 400
Shewanella putrefaciens CN-32
Shigella dysenteriae Sd197
Shigella sonnei Ss046

Sinorhizobium medicae WSM419 (correct name Ensifer medicae)
Sinorhizobium meliloti 1021 (correct name Ensifer meliloti)
Sodalis glossinidius str. 'morsitans'
Sorangium celluloseum 'So ce 56'
Staphylococcus carnosus subsp. carnosus TM300
Staphylococcus haemolyticus JCSC1435
Streptococcus dysgalactiae subsp. equisimilis GGS_124
Streptococcus gordonii str. Challis substr. CH1
Streptococcus mutans UA159
Streptococcus sanguinis SK36
Streptococcus uberis 0140J
Streptomyces coelicolor A3(2)
Streptomyces griseus subsp. griseus NBRC 13350
Sulfolobus solfataricus P2
Sulfurovum sp. NBC37-1
Teredinibacter turnerae T7901
Thauera sp. MZ1T
Thermoanaerobacter sp. X514
Thermobifida fusca YX
Thermofilum pendens Hrk 5
Thermosiphon africanus TCF52B
Thermosynechococcus elongatus BP-1
Thiobacillus denitrificans ATCC 25259
Thiomicrospira crunogena XCL-2
Trichodesmium erythraeum IMS101
Ureaplasma urealyticum serovar 10 str. ATCC 33699
Variovorax paradoxus S110
Vibrio harveyi ATCC BAA-1116
Vibrio parahaemolyticus RIMD 2210633
Vibrio splendidus LGP32
Wigglesworthia glossinidia endosymbiont of Glossina brevipalpis
Xanthobacter autotrophicus Py2
Xanthomonas axonopodis pv. citri str. 306
Yersinia enterocolitica subsp. enterocolitica 8081
Zymomonas mobilis subsp. mobilis ZM4

C- Species names that have never been validly published, or belong to *candidatus* names:

Acaryochloris marina MBIC11017
Alkaliphilus metalliredigens QYMF
Anaerocellum thermophilum DSM 6725
Aquifex aeolicus VF5
Aromatoleum aromaticum EbN1
Baumannia cicadellinicola str. Hc (Homalodisca coagulata)
Candidatus Amoebophilus asiaticus 5a2
Candidatus Azobacteroides pseudotrichonymphae genomovar. CFP2
Candidatus Blochmannia floridanus
Candidatus Blochmannia pennsylvanicus str. BPEN
Candidatus Carsonella ruddii PV
Candidatus Desulfurudis audaxviator MP104C

Candidatus Hamiltonella defensa 5AT (Acyrtosiphon pisum)
Candidatus Hodgkinia cicadicola Dsem
Candidatus Korarchaeum cryptofilum OPF8
Candidatus Koribacter versatilis Ellin345
Candidatus Liberibacter asiaticus str. psy62
Candidatus Methanoregula boonei 6A8
Candidatus Pelagibacter ubique HTCC1062
Candidatus Phytoplasma australiense
Candidatus Phytoplasma mali
Candidatus Protochlamydia amoebophila UWE25
Candidatus Ruthia magnifica str. Cm (Calyptogena magnifica)
Candidatus Solibacter usitatus Ellin6076
Candidatus Sulcia muelleri GWSS
Candidatus Vesicomysocius okutanii HA
Chlorobium chlorochromatii CaD3
Dechloromonas aromatica RCB
Dehalococcoides ethenogenes 195
Desulfococcus oleovorans Hxd3
Desulfotomaculum reducens MI-1
Elusimicrobium minutum Pei191
Escherichia fergusonii ATCC 35469
Geobacter lovleyi SZ
Gramella forsetii KT0803
Haemophilus somnus 129PT
Heliobacterium modesticaldum Ice1
Kosmotoga olearia TBF 19.5.1
Magnetospirillum magneticum AMB-1
Mannheimia succiniciproducens MBEL55E
Methylophilum inferorum V4
Nanoarchaeum equitans Kin4-M
Nitrosopumilus maritimus SCM1
Nostoc punctiforme PCC 73102
Onion yellows phytoplasma OY-M
Phenylobacterium zucineum HLK1
Pseudomonas entomophila L48
Pyrococcus abyssi GE5
Sulfolobus islandicus L.S.2.15
Sulfolobus islandicus M.14.25
Sulfolobus islandicus M.16.27
Sulfolobus islandicus M.16.4
Sulfolobus islandicus Y.G.57.14
Sulfolobus islandicus Y.N.15.51
Thermococcus onnurineus NA1