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218130589|Bacte|Bacteroides eggerthii DSM 20697          792 AYA-GIGYSILS 67 TRVVIHK-RT  4 DEING-IKDS 891
154490797|Bacte|Parabacteroides merdae ATCC 43184         362 AYA-GIGYSIKK 67 QRVVVHK-RT  4 DEIKG-ITNA 461
229435559|Bacte|Bacteroides sp. D4                        740 AYA-GIGYSVKT 67 RRVVIHK-RT  4 EEIEG-ITHA 839
167754324|Bacte|Alistipes putredinis DSM 17216            365 AYA-GIGYSVKT 67 RRVVIHK-RT  4 EEIEG-ITHA 464
91783256|Betap|Burkholderia xenovorans LB400              818 AYV-GLGFSVKR 68 ERVVIHK-QT  4 EERSG-LQAG 918
170696578|Betap|Burkholderia graminis C4D1M               785 AYV-GLGFSVKR 68 ERVVIHK-QT  4 EERSG-LQAG 885
114777173|Zetap|Maripro fundus ferrooxydans PV-1          641 AYV-GIGYSIDQ 66 DRVVIHK-KT  4 EEKRG-LTQG 739
209515879|Betap|Burkholderia sp. H160                     759 AFV-GIGYSLDA 66 TRVVIHK-RT  4 EEQRG-LVQG 857
171321418|Betap|Burkholderia ambifaria MEX-5              805 AFV-GIGYSLDS 66 TRVVIHK-RT  4 EERRG-LVQG 903
39996463|delta|Geobacter sulfurreducens PCA               223 AYI-GLSYAIKK 67 RKIFIHK-TT  4 DEIQG-AFDS 322
189499316|Chlor|Chlorobium phaeobacteroides BS1           223 AYI-GLSYAIKK 67 KKLFVHK-TS  4 KEIQG-AYDA 322
84701997|Alpha|Parvularcula bermudensis HTCC2503          235 AFI-GIDYAMRR 67 KRVVIHK-NT  4 EEVDG-CLNA 334
146337912|Alpha|Bradyrhizobium sp. ORS278                 228 AYI-GLSYALRP 67 RRVTVHK-TT  4 DEIDG-CMEA 327
148266051|delta|Geobacter uraniireducens Rf4              228 AYI-GISYAVRP 67 RRVMVHK-TT  4 DEIDG-CMEA 327
229540345|Planc|Planctomyces limnophilus DSM 3776         162 AYI-GISYAQRP 67 RRVMVHK-TT  4 EEVDG-CMEA 261
188992493|Gamma|Xanthomonas campestris  B100              233 AYI-GLAYALKR 70 RRMVIHK-SN  4 DEVLG-ARDA 335
146283523|Gamma|Pseudomonas stutzeri A1501                234 AYI-GLAYALRG 70 RRLVVHK-TT  4 EELEG-ALDA 336
192359261|Gamma|Cellvibrio japonicus Ueda107              233 AYI-GLAYALRG 70 RRLVVHK-TT  4 EELEG-ALDA 335
194365751|Gamma|Stenotrophomonas maltophilia R551-3       289 CYV-GLAYKITE 62 KEIFLHA-HS  4 DEYQG-FLKA 383
224023924|Bacte|Bacteroides coprophilus DSM 18228         271 CYL-GLVYKKTE 65 EEIFIHA-RT  4 DEWDG-FTEA 368
91978096|Alpha|Rhodopseudomonas palustris BisB5           280 CYV-GLVFKRID 65 TELFIHG-KT  4 NEWAG-FSSA 377
190893999|Alpha|Rhizobium etli CIAT 652                   274 CYV-GLAYKRQD 66 AELFIHA-KS  4 PEWKG-FKAA 372
148553128|Alpha|Sphingomonas wittichii RW1                289 CYV-GLVFKLLP 63 KELFIHG-RT  4 AEWDA-FSKA 384
225872323|Acido|Acidobacterium capsulatum ATCC 51196      288 CYI-GLVFKMIP 63 KEFFIHG-CT  4 DEWKA-FKKA 383
162145849|Alpha|Gluconacetobacter diazotrophicus Pal-5    289 CYI-GMVYKSLP 63 LELFIHG-QT  4 EEWNA-FCAA 384
150378394|Alpha|Sinorhizobium medicae WSM419              287 CYL-GMVYKSLP 63 KELFIHG-QT  4 EEWAA-FADA 382
16519675|Alpha|Rhizobium sp. NGR234                       287 CYL-GMVYKSLP 63 KELFIHG-QT  4 EEWAA-FADA 382
20089856|Metha|Methanosarcina acetivorans C2A             238 CYV-GISFFNEK 64 NRVVVHK-SS  4 DELEG-FREA 334
55376414|Halob|Haloarcula marismortui ATCC 43049          241 CYA-GLSFYRER 65 SRFVLHK-PS  4 EEREG-LLDA 338
222481225|Halob|Halorubrum lacusprofundi ATCC 49239       243 CYA-GISFYKER 65 SRFVLHK-TS  4 EEREG-FKEG 340
149175030|Planc|Planctomyces maris DSM 8797               276 CFI-GVDFYVAQ 67 KRVVVHK-PS 10 NELDG-FIEG 381
84686687|Alpha|Rhodobacterales bacterium HTCC2654         265 CYI-GISFFKDA 62 ARVIVMK-TS  4 DEAEG-VGKA 359
182676905|Alpha|Beijerinckia indica ATCC 9039             259 CYI-GISFYRDV 62 ARVIILK-TS  4 DEADG-ILRA 353
13475183|Alpha|Mesorhizobium loti MAFF303099              280 CYI-GVSFYREA 62 ARVIVLK-TS  4 EEADG-IFEA 374
83954752|Alpha|Sulfitobacter sp. NAS-14-1                 254 NFL-GIGFHRSL 62 ARLVVLK-TS  4 EEADG-VDDA 348
154244391|Alpha|Xanthobacter autotrophicus Py2            256 SFL-GIGFYRDL 62 ARLVVLK-TS  4 EEAEG-IDAA 350
124262648|Betap|Methylibium petroleiphilum PM1            248 CAV-GIAFYRSR 62 ARIVVHK-SS  4 EEIDG-LSEA 342
84702495|Alpha|Parvularcula bermudensis HTCC2503          247 CAV-GIAFYRSR 62 ARLVIHK-SS  4 EELDG-IESA 341
117922288|Gamma|Shewanella sp. ANA-3                      255 CYV-GIGFYKSR 62 ARIVIHK-SS  4 EEIRG-FTRA 349
223987888|Gamma|Providencia rettgeri DSM 1131             255 CYV-GIGFYKSR 62 ARVVIHK-SS  4 CEIEG-FNEA 349
229219623|Gamma|Citrobacter youngae ATCC 29220            139 CYV-GIGFYKSR 62 ARVVIHK-SS  4 TEIQG-FNRA 233
223934405|Verru|bacterium Ellin514                        256 AYI-GISFYLSP 62 ARIVIHK-TS  4 DEKDG-CNEA 350
119855142|Actin|Mycobacterium sp- KMS                     251 CFV-GVSFYRSI 62 ARVMLHK-TS  4 EELEG-FHAA 345
94311099|Betap|Ralstonia metallidurans CH34               258 CFV-GISFYRSL 62 ARVVVHK-SS  4 DELEG-FNGA 352
229579410|Therm|Sulfolobus islandicus Y-G-57-14           208 MLM-GIAFARPR 65 PLLIIFK-TS  4 DEKEA-IETV 305
196245474|Chroo|Cyanothece sp. PCC 8802                   404 FFL-GLSYTQSH 55 PSIYFHY-SA  4 EDRTA-ILEA 491
229584954|Therm|Sulfolobus islandicus M-16-27             208 MLM-GIAFARTR 65 PLLIIFK-TS  4 DEKEA-IEAV 305
222476126|Halob|Halorubrum lacusprofundi ATCC 49239       511 LFL-GMSVTGDE 57 GSLTIHR-NG  4 GELEG-IREG 600
73748042|Dehal|Dehalococcoides sp. CBDB1                  532 GYLRNVAITKVL 78 QTIVVQR-DG  4 SEIAG-AKDA 643
15606619|Aquif|Aquifex aeolicus VF5                       497 AFV-GIDISRIT 56 SKIVVFR-DG  4 DEVAA-FKKY 585
119493538|Oscil|Lyngbya sp. PCC 8106                      539 YFI-GLDISRTP 54 KTVLIYR-DG  4 DEIKH-LRER 625
159027320|Chroo|Microcystis aeruginosa PCC 7806           532 YFI-GLDVGRMP 55 -TVLIYR-DG  4 KEVDN-LLAR 618
166364682|Chroo|Microcystis aeruginosa NIES-843           532 YFI-GLDVGRMP 55 -TVLIYR-DG  4 KEVEN-LLAR 618
164686207|Clost|Clostridium bartlettii DSM 16795          512 CYI-GLDVCREN 56 EHIVFHR-DG  3 EDIDL-LKEI 599
187604166|Bacil|Exiguobacterium sp. AT1b                  393 CFV-GLDVSHEN 56 KHITFHR-DG  3 EDLTL-IDSI 480
212639457|Bacil|Anoxybacillus flavithermus WK1            494 CFI-GLDVSHEQ 56 SHITFHR-DG  3 EDLAH-LTQY 581
227881908|Halob|Halogeometricum borinquense DSM 11551     672 AFV-GLDVTYDH 57 RHVVIHR-DG  3 LDIES-LIKR 760
222475719|Halob|Halorubrum lacusprofunDi ATCC 49239       531 LFI-GLDVSHRY 61 DRIVIHR-DG  3 EDLDQ-VEEM 623
56478414|Betap|Aromatoleum aromaticum EbN1                499 LFI-GLDLGGVS 55 RRIALHR-DG  3 ESLDV-IRNF 585
55978251|Deino|Thermus thermophilus HB8                   473 LAV-GFDAGGRE 55 SRVLLLR-DG  4 DEFAL-ALEA 560
46255097|Deino|Thermus thermophilus HB27                  473 LAV-GFDAGGRE 55 SRVLLLR-DG  4 DEFAL-ALEA 560
170077638|Chroo|Synechococcus sp. PCC 7002                396 LVI-GFDAGRNE 56 KRILLMR-DG  4 QEFSL-ITEA 484
22298491|Chroo|Thermosynechococcus elongatus BP-1         528 LII-GFDTSTNR 55 KKILLMR-DG  4 GEFEQTIREL 616
56752529|Chroo|Synechococcus elongatus PCC 6301           511 LII-GFDTGTNR 55 QKLLLMR-DG  4 GEFQQ-TIEL 598
86610170|Chroo|Synechococcus sp. JA-2-3B-a-2-13           521 LTI-GFDVGTNR 55 RKVLLMR-DG  4 GEFDKTIEEL 609
86606806|Chroo|Synechococcus sp. JA-3-3Ab                 505 LII-GFDVGTNR 55 SKVLLMR-DG  4 GEFSRTIEEL 593
81300343|Chroo|Synechococcus elongatus PCC 7942           511 LII-GFDTGTNR 55 QKLLLMR-DG  4 GEFQQ-TIEL 598
11498916|Archa|Archaeoglobus fulgidus DSM 4304            181 III-GTGATRID 55 EKLTLHV-SG  7 GETKI-LKET 271
229204037|Bacte|Pedobacter heparinus DSM 2366             393 LII-GIGQSYNI 58 KKIAVHTPFR  1 SKDKV-LDKV 481
229871910|Bacte|Spirosoma linguale DSM 74                 402 LIL-GIGSAHQS 57 TKCALHIPFK  3 KEIKA-IQAA 491
110639330|Bacte|Cytophaga hutchinsonii ATCC 33406         456 LVI-GVGSSLSS 57 FRLIFHL-FK  5 YEIKA-VENL 546
146279708|Alpha|Rhodobacter sphaeroides ATCC 17025        524 LVV-GMGLAELS 63 VRVVFHA-HR  4 VEVASIVFEC 620
218248696|Chroo|Cyanothece sp. PCC 8801                   518 LVI-GIGTSELS 63 VRLIFHS-AR  4 VNIAKIISEC 614
21225132|Actin|Streptomyces coelicolor A3-2               428 LVI-GIGSAHVK 63 LRLVFHV-FK  4 VEATA-VKKL 523
84702443|Alpha|Parvularcula bermudensis HTCC2503          513 LVI-GLGSHTEQ 63 VRLVFHA-FK  4 IEAEA-IKQA 608
222110533|Betap|Diaphorobacter sp. TPSY                   506 VVI-GLGSAAIG 63 VRVIVHA-FK  4 TEVES-VKAA 601
168702707|Planc|Gemmata obscuriglobus UQM 2246            268 MVV-GLGSARIG 63 VRLVFHA-FK  4 AEITA-VKEV 363
116749911|delta|Syntrophobacter fumaroxidans MPOB         520 LII-GLGSANIA 63 VRLVFHASFK  4 DEVNS-VKLL 616
147677058|Clost|Pelotomaculum thermopropionicum SI        527 LVF-GLGSCQVS 63 VRLIFHL-FK  4 IEVTA-IKTV 622
225874783|Acido|Acidobacterium capsulatum ATCC 51196      507 IIV-GIGSARLN 63 VRFIFHQKFK  4 AEAEA-VDRF 603
223489681|Clost|Carboxydibrachium pacificum DSM 12653     192 LVI-GVSRAIDK 59 SSLVIHLCKR  4 REIAA-VEQA 284
15922263|Therm|Sulfolobus tokodaii str. 7                 216 HFI-GLGLTSDP 58 NILVVHYSGK  4 DEDQL-IRNA 307
91203428|Planc|Candidatus Kuenenia stuttgartiensis        448 LVI-GYNYKKLQ 50 DRLTIHY-YK  4 DEIKN-FEQV 530
20094747|Metha|Methanopyrus kandleri AV19                 490 AVV-GVDVSRKV 55 DRVVYIR-DG  4 EELEA-VREV 577
223476486|Therm|Thermococcus barophilus MP                594 YII-GIDYTYWH 60 VTVLISR-DG  4 YERNR-IQEF 686
212224657|Therm|Thermococcus onnurineus NA1               534 FII-GIDVTREM 60 ADILFLR-DG  4 GELEQ-FKEI 626
15669511|Metha|Methanocaldococcus jannaschii DSM 2661     499 YIM-GLDTGLGI 53 KNILFIR-DG  4 SERND-LKEI 584
18976909|Therm|Pyrococcus furiosus DSM 3638               553 YII-GIDVAPMK 57 KKILLLR-DG  4 NEEEG-LKYI 642
sec str.1Z25                                                EEE EEEEEEE       EEEEEEE       HHHHH HHHH
                                                                D                 R D       E
118360150|Cilio|Tetrahymena thermophila                   678 TMIIGTSVQKVF 58 ENIIYIR-EN 11 TEIKE-VLKS 776
167395142|Archa|Entamoeba dispar SAW760                   540 MTV-GIDVISAG 56 KKVIIYR-GS 11 GELVE-VKKA 635
145535820|Cilio|Paramecium tetraurelia strain d4-2        523 TMICGMDVYHST 58 SRIIIFR-DG 11 TEVAQ-FRQA 621
17647145|Metaz|Drosophila melanogaster                    682 IFL-GADVTHPP 60 HRIILYR-DG 11 HELTA-IREA 781
17136736|Metaz|Drosophila melanogaster                    609 MTI-GEDIAKST 58 SRIVFYR-DG 11 EEVKDIIEKL 707
17538380|Metaz|Caenorhabditis elegans                     476 MIV-GYDLYHDS 58 SRLILYR-DG 11 TEVKL-VRDA 573
Consensus(80%)                                              hhh.Gh......     .phhhh....     .Ehp..h.ph
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