**Table S2. List of strains used in this study.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Isolate** | **Sample site** | **Isolation media** | **Antibiotics \*** | **16S ID** | **Gram** |
| LC 3 | LCECE | FC |   | *Rhizobium sp.* B282 | -  |
| LC 4 | LCECE | FC |   | *Bosea sp.* PD 23 | - |
| LC 5 | LCECE | FC |   | *Devosia neptuniae* | - |
| LC 9 | LCECE | VM/C/NPS/P/CAS |   | *Streptomyces mauvecolor* | + |
| LC 10 | LCECE | VM/C/NPS/P/CAS |   | *Devosia neptuniae* | - |
| LC 11 | LCECE | VM/C/NPS/P/CAS |   | *Ensifer adhaerens* | - |
| LC 12 | LCECE | VM/C/NPS/P/CAS |   | *Sphingobium yanoikuyae* | - |
| LC 13 | LCECE | VM/C/NPS/P/CAS |   | *Ensifer adhaerens* | - |
| LC 14 | LCECE | VM/C/NPS/P/CAS |   | *Ensifer adhaerens* | - |
| LC 17 | LCDS1B | VM/C/NPS/P/CAS |   | *Massilia timonae* | - |
| LC 18 | LCDS1B | VM/C/NPS/P/CAS |   | *Agrococcus jenensis* | + |
| LC 19 | LCDS1B | VM/C/NPS/P/CAS |   | *Ochrobactrum intermedium* | - |
| LC 23 | LCDS1B | C/P/CAS |   | *Betaproteobacterium* HI-B12 | - |
| LC 29 | LCECE | VM/NPS/P/CAS |   | *Streptomyces flaveus* | + |
| LC 30 | LCECE | HC |   | *Streptomyces anulatus* | + |
| LC 31 | LCECE | H |   | *Streptomyces anulatus* | + |
| LC 34 | LCECE | VM/NPS/P/CAS |   | *Agrobacterium tumefaciens* | - |
| LC 36 | LCECE | VM/NPS/P/CAS |   | *Brevundimonas vesicularis* | - |
| LC 37 | LCECE | VM/NPS/P/CAS |   | *Acinetobacter calcoaceticus* | - |
| LC 38 | LCECE | VM/NPS/P/CAS |   | *Ochrobactrum anthropi* | - |
| LC 44 | LCDS1B | VM/NPS/P/CAS |   | *Brachybacterium paraconglomeratum* | + |
| LC 54 | LCECE | HC |   | *Ensifer adhaerens* | - |
| LC 65 | LCDS1B | NPS |   | *Ochrobactrum anthropi* | - |
| LC 69 | LCECE | NPS |   | *Arthrobacter sp*. M4 | + |
| LC 70 | LCDS1B | H |   | *Microbacterium sp.* AC35 | + |
| LC 74 | LCDS1B | H |   | *Rhodococcus erythropolis* | + |
| LC 75 | LCECE | H |   | *Rhodococcus erythropolis* | + |
| LC 77 | LCECE | H |   | *Sphingomonas sp.* HI-K4 | - |
| LC 78 | LCECE | H |   | *Streptomyces mauvecolor* | + |
| LC 79 | LCECE | H |   | *Nocardia asteroides* | + |
| LC 81 | LCECE | H |   | *Sphingopykis sp*. DG892  | - |
| LC 83 | LCECE | H |   | *Sphingomonas sp*. HI-K4 | - |
| LC 85 | LCECE | F |   | *Bosea thiooxidans* | - |
| LC 86 | LCECE | F |   | *Bosea thiooxidans* | - |
| LC 87 | LCECE | F |   | *Bosea thiooxidans* | - |
| LC 92 | LCECE | F |   | *Bosea thiooxidans* | - |
| LC 103 | LCECE | VM/C/C1 |   | *Mesorhizobium plurifarium* | - |
| LC 104 | LCECE | VM/C/C1 |   | *Alphaproteobacterium* clone RR4A6 | - |
| LC 112 | LCDS1B | F |   | Uncultured *Roseomonas sp* | - |
| LC 113 | LCDS1B | F |   | Uncultured *Roseomonas sp* | - |
| LC 143 | LCEA1 | FC |   | *Arthrobacter oxydans* | + |
| LC 145 | LCEA1 | FC |   | *Rhizobium galegae* | - |
| LC 148 | LCEA1 | FC |   | *Rhizobium sp*. ORS 1465 | - |
| LC 153 | LCEA1 | FC |   | *Kocuria rosea* | + |
| LC 163 | LCEA1 | DW |   | *Ensifer adhaerens* | - |
| LC 230 | LCEA1 | VM/C/NPS/P/CAS |   | *Paenibacillus lautus* | + |
| LC 231 | LCEA1 | VM/C/NPS/P/CAS |   | *Paenibacillus lautus* | + |
| LC 236 | LCEA1 | VM/C/NPS/P/CAS |   | *Pseudoxanthomonas mexicana* | - |
| LC 238 | LCEA1 | VM/C/NPS/P/CAS |   | *Naxibacter varians* | - |
| LC 241 | LCEA1 | PCAS |   | *Sphingomonas pseudosanguinis* | - |
| LC 242 | LCEA1 | PCAS |   | *Paenibacillus lautus* | + |
| LC 249 | LCECE | VM/C/NPS/P/CAS |   | *Microbacterium esteraromaticum* | + |
| LC 263 | LCEA1 | PCAS |   | *Pseudomonas stutzeri* | - |
| LC 265 | LCEA1 | PCAS |   | *Paenibacillus lautus* | + |
| LC 268 | LCDS1B | P/C/CAS |   | *Massilia timonae* | - |
| LC 278 | LCEA1 | VM/C/C1 | AMP | *Microbacterium phyllosphaerae* | + |
| LC 285 | LCEA1 | FC | TN | *Brevibacterium casei* | + |
| LC 289 | LCEA1 | FC | AMP | *Arthrobacter sp*. Ellin159 | + |
| LC 363 | LCECE | DW |   | *Sphingopyxis alaskensis* | - |
| LC 364 | LCEA1 | DW |   | *Ochrobactrum anthropi* | - |
| LC 365 | LCEA1 | VM/NPS/P/CAS | AMP | *Actinobacterium* CH21i | + |
| LC 368 | LCEA1 | VM/NPS/P/CAS | AMP | *Microbacterium hominis* | + |
| LC 371 | LCEA1 | VM/NPS/P/CAS |   | *Pseudomonas stutzeri* | - |
| LC 378 | LCEA1 | VM/NPS/P/CAS |   | *Mesorhizobium mediterraneum* | - |
| LC 379 | LCEA1 | DW |   | *Sphingomonas sp.* HI-K4 | - |
| LC 383 | LCDS1B | HC |   | *Sphingomonas dokdonensis* | - |
| LC 384 | LCDS1B | HC |   | *Ensifer adhaerens* | - |
| LC 387 | LCEA1 | VM/NPS/P/CAS | AMP | *Tetrathiobacter kashmirensis* | - |
| LC 390 | LCEA1 | VM/NPS/P/CAS | AMP | *Leucobacter alluvii* | + |
| LC 391 | LCEA1 | DW |   | *Variovorax sp*. HI-I4 | - |
| LC 392 | LCEA1 | VM/C/NPS/P/CAS |   | *Bosea sp*. CRIB-12 | - |
| LC 400 | LCEA1 | VM/C/NPS/P/CAS | AMP | *Pseudomonas stutzeri* | - |
| LC 401 | LCEA1 | VM/C/NPS/P/CAS | AMP | *Dietzia maris* | + |
| LC 404 | LCEA1 | VM/C/NPS/P/CAS | AMP | *Brevundimonas aurantiaca* | - |
| LC 409 | LCEA1 | VM/C/NPS/P/CAS | AMP | *Microbacterium esteraromaticum* | + |
| LC 411 | LCDS1B | HC |   | *Sphingomonas sp*. HI-K4 | - |
| LC 412 | LCECE | VM/C/NPS/P/CAS |   | *Rhodococcus erythropolis* | + |
| LC 415 | LCEA1 | VM/NPS/P/CAS | AMP | *Rhodococcus erythropolis* | + |
| LC 421 | LCEA1 | FC |   | *Achromobacter sp*. LMG 5911 | - |
| LC 424 | LCEA1 | VM/NPS/P/CAS | AMP | *Microbacterium sp.* AC35 | + |
| LC 425 | LCEA1 | VM/NPS/P/CAS |   | *Pseudoxanthomonas mexicana* | - |
| LC 458 | LCEA1 | H |   | *Achromobacter spanius* | - |
| LC 469 | LCEA1 | F |   | *Microbacterium esteraromaticum* | + |
| LC 485 | LCEA1 | PCAS |   | *Brevibacterium casei* | + |
| LC 486 | LCEA1 | PCAS |   | *Brevibacterium casei* | + |
| LC 498 | LCECE | VM/NPS/P/CAS |   | *Ochrobactrum anthropi* | - |
| LC 499 | LCECE | VM/NPS/P/CAS |   | *Ensifer adhaerens* | - |
| LC 500 | LCECE | VM/NPS/P/CAS |   | *Sphingomonas yanoikuyae* | - |
| LC 506 | LCDS1B | P/C/CAS |   | *Ochrobactrum intermedium* | - |
| LC 507 | LCDS1B | P/C/CAS |   | *Microbacterium esteraromaticum* | + |
| LC 508 | LCECE | VM/C/NPS/P/CAS |   | *Devosia neptuniae* | - |
| LC 509 | LCEA1 | FC |   | *Micrococcus luteus* CV39 | + |
| LC 510 | LCECE | VM/NPS/P/CAS |   | *Acinetobacter calcoaceticus* | - |
| LC 511 | LCDS1B | VM/C/NPS/P/CAS |   | *Brevundimonas vesicularis* | - |
| LC 513 | LCDS1B | VM/C/NPS/P/CAS |   | *Methylobacterium lusitanum* | - |
| VM = Vitamins Minerals | F = Fulvic acid |  | *\* Antibiotic added to the media* |  |
| P = Pyruvate | H = Humic acid |  | *AMP = Ampicillin* |  |
| C = CaCO3 |  | DW = Distilled water |  | *TN = Trimethoprim* |  |
| C1 = Methanol/formate | NPS = Nitrogen/Phosphate/Sulfur |  |  |
|  |  | CAS= CAS Amino acids |  |  |  |