**Table S9. Details of plasmid pBIO2160.** Source: cast water biofilm, Westerhöfer Bach, Germany.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gene** | **Protein type of closest homologue** | **Bacterial species of closest homologue** | **Taxonomic status** | **Gene ID/locus tag** | **E value** |
| A | hypothetical protein | *Oceanobacillus* sp. Ndiop | Firmicutes; Bacilli; | ONdio\_010100007020 | 5e-09 |
| B | lysine decarboxylase | *Geobacillus thermodenitrificans* NG80-2 | Firmicutes; Bacilli; | GTNG\_0929 | 0.0 |
| C | ArkA | *Oceanobacillus* sp. Ndiop | Firmicutes; Bacilli; | ONdio\_010100007015 | 3e-149 |
| D | hypothetical protein | *Oceanobacillus* sp. Ndiop | Firmicutes; Bacilli; | ONdio\_010100007005 | 9e-92 |
| E | hypothetical protein | *Lentibacillus* sp. Grbi | Firmicutes; Bacilli; | LGrbi\_07551 | 1e-16 |
| F | myo-inositol-1(or 4)-monophosphatase | *Oceanobacillus* sp. Ndiop | Firmicutes; Bacilli; | ONdio\_010100006995 | 1e-113 |
| G | hypothetical protein | *Virgibacillus* sp. CM-4 | Firmicutes; Bacilli; | M948\_16090 | 9e-16 |
| H | hypothetical protein | *Oceanobacillus iheyensis* HTE831 | Firmicutes; Bacilli; | OB1424 | 2e-25 |
| I | hypothetical protein (partial, C-terminal)  | *Lentibacillus* sp. Grbi | Firmicutes; Bacilli; | LGrbi\_07566 | 9e-15 (over 50 amino acids of available sequence) |

I

H

G

F

E

D

C

B

A

The features of the genes are shown in tabular and diagrammatic forms. In the table, the gene letter in Column (a) corresponds to that in the figure below. Column (b) shows the predicted general function of the gene product, the species {column (c)} and taxonomic status {column(d)} of the bacterium that harbours the closest homologue, whose gene tag is shown in column (e) and whose BLASTP E value in comparison to the metagenomic polypeptide is in column (f). The blue row indicates the individual genes/proteins that confer acrylate resistance. In the figure, arrows indicate locations of genes in the cloned DNA, with the gene that confers acrylate resistance being in black. Dashed vertical lines indicate a partial gene sequence at the terminus of the insert DNA.