

## Supplementary material:

**Table 1:** Details of the primers used in this study

Primer Pair	Annealing temp in C	Primer Sequence	Expected Amplicon Length	Ref
<i>AtxA</i>	50	5'-GACATGCTAACACCGATATCC-3', 5'-TGCATTACCCGTTCTTCC-3'	1500 bp	[4]
<i>cap A</i>	50	5'GTGCTTTTAACCGCTTGTGGTAATAC-3' 5'TAGTCTTTATACCAATTTCCCAACAC-3'	1178 bp	Designed in this study
<i>cyt1gral</i>	52	5' CCTCAATCAACAGCAAGGGTATT -3' 5'TGCCAAACAGGACATTGTATGIGTAATT-3'	450 bp	[18]
<i>cyt2gral</i>	50	5' ATTACAAATGCAAAATGGTATTCC 5'TTTCAACATCCACAGTAATTTCAAATGC	350 bp	[18]
<i>ps1</i>	48	5'-ATCAAGAATTTTCCGATAATC-3' 5'-CCAAAGTGCCAGAAATG-3'	1000 bp	[19]
<i>ps-4</i>	48	5'-TTTTGCAAAGGTAGGT-3' 5'-AAATAGGAATATCTAATC-3'	471 bp	[20]
<i>ps-6</i>	48	5' GGATCTGTACCGCAATTCA-3' 5' TGGGATTGATGGGATTAATGT-3,	1000 bp	[21]

**Table 2: Morphological and Biochemical characteristics**

Sl.No	Name of the parameter	Observations
1	Gram Staining	Positive
2	Spore staining	Positive
3	Cell shape	Long rod
4	Density	Opaque
5	Elevation	Convex
6	Margin	Irregular
7	Configuration	Entire
8	Pigmentation	Nil
9	H <sub>2</sub> S production	Negative
10	Fluorescence	Negative
11	Motility	Positive
12	Haemolytic activity	Negative
13	Catalase	Positive
14	Methyl Red	Positive
15	Voges Proskauer	Positive
16	Indole	Positive
17	Citrate utilization	Positive
18	Starch utilization	Positive
19	Caesin	Positive
20	Gelatin	Negative
21	Oxidation Fermentation	Positive
22	Nitrate reduction	Positive
23	Anaerobic growth	Negative
	<b>Acid production from carbohydrates</b>	
	Glucose	Positive
	Fructose	Positive
	Arabinose	Negative
	D-xylose,	Negative
24	D-mannitol,	Negative
	Lactose,	Negative
	Maltose	Positive
	Mannitol	Negative
	Sucrose	Mild
	Galactose	Negative
<b>Sl No</b>	<b>Growth parameter</b>	<b>Observation</b>
	Growth on NaCl	
	5%	Positive
1	7%	Positive
	10%	Positive
	12%	Weak
	<b>Temperature</b>	
	Growth at 4 <sup>o</sup> C	Negative
	Growth at 15 <sup>o</sup> C	Negative
2	Growth at 25 <sup>o</sup> C	Positive
	Growth at 37 <sup>o</sup> C	Positive
	Growth at 42 <sup>o</sup> C	Weak
	Growth at 50 <sup>o</sup> C	Negative

**Table 3: Antibiotic sensitivity test on *B.t.LDC-391***

Antibiotics tested	Concentration per disc	Zone of clearance	Remarks
Ampicillin	10µg	0mm	Resistant
Bacitracin	10µg	0mm	Resistant
Amoxicillin	50µg	0mm	Resistant
Penicillin	20 U	0mm	Resistant
Polymyxin B	300 U	0mm	Resistant
Rifampicin	5 µg	5 mm	Intermediate
Streptomycin	10µg	8 mm	Sensitive
Tetracyclin	30µg	10 mm	Sensitive
Chloramphenicol	30µg	13 mm	Sensitive
Kanamycin	10µg	12 mm	Sensitive
Azithromycin	10µg	15 mm	Sensitive

(0 mm clearance: Resistant; 0-5 mm clearance: Intermediate; >5 mm clearance: Sensitive).