Table S1. Quantification of the growth of strain L11 in two different media.

Time	OD_{600}	
	LB Medium	*B. subtilis* universal culture media
0	0.001	0.012
2	0.037	0.031
4	0.159	0.146
6	0.656	0.555
8	1.195	1.235
10	1.310	1.326
12	1.368	1.678
14	1.514	1.766
16	1.702	1.832
18	1.915	1.915
20	2.205	2.035
22	2.416	2.255
24	2.408	2.298
26	2.409	2.401
28	2.509	2.691
30	2.658	2.715
32	2.777	2.678
34	2.899	2.489
36	2.998	2.367
38	3.012	2.256
40	3.190	2.134
42	3.189	2.067
44	3.183	1.678
48	3.116	1.859

Table S2. The identification results of endophytic bacteria L11.

Test Items	Result 16h	Test Items	Result 16h	Test Items	Result 16h	Test Items	Result 16h
Control	-	α- D-glucose	+	Gelatin	+	Hydroxyphenylacetic acid	-
Dextrin	+	D-mannose	-	Glycine L-proline	-	Methyl pyruvate	-
D-Maltose	+	D-Fructose	+	Alanine	-	D-methyl lactate	+
D-trehalose	+	D-galactose	-	Arginine	-	Lactic Acid	+
D-cellulose disaccharide	-	3-Methyl-D-glucose	-	L-Aspartic acid	+	Citric acid	+
Gentiobiose	-	D-Fucose	-	L-glutamate	w	α-ketoglutaric acid	+
Saccharose	+	L-Fucose	-	Histidine	+	D-Malic Acid	-
Turanose	-	L-Rhamnose	-	L-pyroglutamic acid	-	L-Malic Acid	+
Stachyose	-	Inosine	+	Serine	+	Bromosuccinic acid	w
Positive control	+	1% Sodium lactate	+	Lincomycin	-	Nalidixic acid	+
pH 6.0	+	Fusidic Acid	-	Guanidine hydrochloride	+	LiCl	+
pH 5.0	+	D-serine	+	Sodium tetradecyl sulfate	-	Potassium tellurite	+
Raffinose	-	D-sorbitol	-	Pectin	+	Tween-40	-
α- lactose	-	D- Mannitol	-	D-Galacturonic acid	+	γ- aminobutyric acid	-
Melibiose	-	D-arabitol	-	L-Galactolactone	+	α- Hydroxybutyric acid	-
β- Methyl-D-glucoside	-	Inositol	-	D-gluconic acid	+	β- Hydroxy-D, L-butyric acid	+
D-Salicylin	+	Glycerol	+	D-Glucuronic acid	+	α- ketobutyrate	w
N-Acetyl-D-glucosamine	+	D-glucose-6-phosphate	+	Glucosaldehyde amide	+	Acetoacetic acid	+
N-Acetyl- β- D-mannosamine	-	D-fructose-6-phosphate	+	Mucic acid	-	Propionic acid	+
N-acetyl-D-galactosamine	-	D-aspartic acid	-	Quinic acid	-	Acetic acid	+
N-acetylneuraminic acid	-	D-serine	-	Saccharic acid	-	Formic acid	+
1% NaCl	+	Troleandomycin	-	Vancomycin	-	Aztreonam	+
4% NaCl	+	Rifamycin SV	+	Tetrazolium violet	-	Sodium butyrate	+
8% NaCl	+	Minocycline	+	Tetrazolium blue	-	Sodium bromate	+

Note: "+" indicates positive or usable, "-" indicates negative or unusable, and "w" indicates boundary value

Table S3. The first step screening of Na_2SeO_3 culture concentration for L11 strain.

Na_2SeO_3 (mmol/L)	12 h		24 h		48 h	
	Reduction	**Se content g/L**	**Reduction**	**Se content g/L**	**Reduction**	**Se content g/L**
2	4.9%	0.017	45.5%	0.157	61.28%	0.212
5	1.7%	0.015	16.8%	0.145	52.5%	0.454
10	0.65%	0.113	0.65%	0.1128	0.65%	0.1128
15	0%	0	0%	0	0%	0

Table S4. The second step screening of Na_2SeO_3 culture concentration for L11 strain.

Na_2SeO_3 (mmol/L)	12 h		24 h		48 h	
	Reduction	**Se content g/L**	**Reduction**	**Se content g/L**	**Reduction**	**Se content g/L**
2	48%	0.166	61.39%	0.212	67.2%	0.233
3	29.3%	0.152	66%	0.228	72%	0.374
4	22.4%	0.155	72%	0.498	73.5%	0.509
5	17.5%	0.151	47.6%	0.412	53.6%	0.464