

Supplementary data

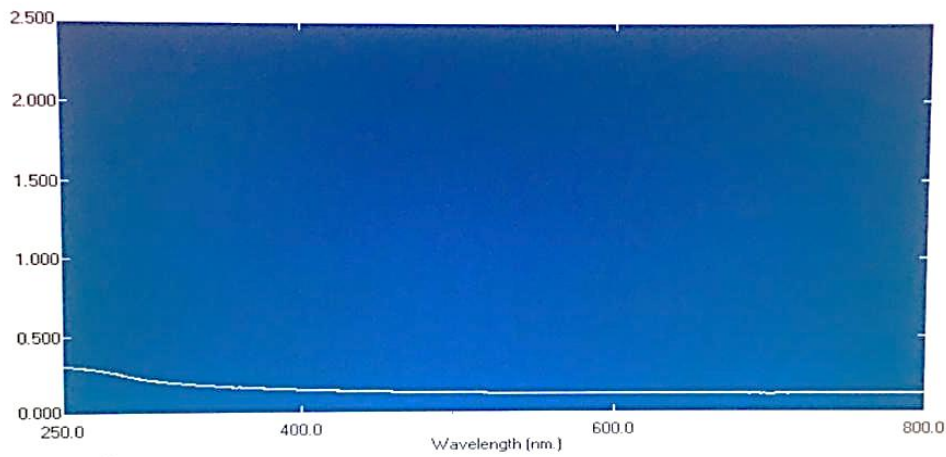
Investigating the multi-targeted pharmacological profile of an exopolysaccharide from *Bacillus rugosus* SYG20 via in vitro evaluation of its antioxidant, anti-inflammatory, antidiabetic, wound healing, and antimicrobial properties

Supplementary Table SI. Culture and morphological characteristics of *Bacillus rugosus* strain SYG20

Culture and morphological features	<i>Bacillus rugosus</i> SYG20
Gram stain	G+ve (short rod)
Colony surface	Dull
Colony texture	Rough
Color	White
Elevation	Flat
Edge	Entire
Whole colony	Irregular Large colony
Pigmentation	No
Opacity of the bacterial colony	Opaque

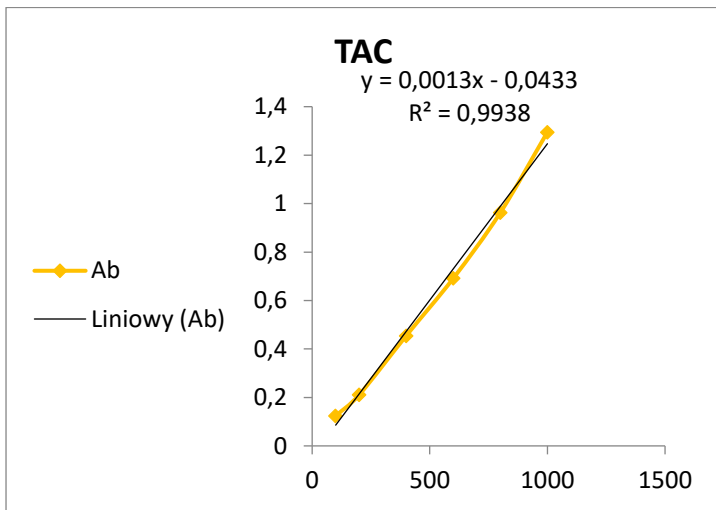
Supplementary Table SII. Physiological and biochemical characteristics *Bacillus rugosus* strain SYG20

Physiological and biochemical features	<i>Bacillus rugosus</i> SYG20
Starch hydrolysis	+
Catalase test	+
Voges- Proskauer test	+
Simmon citrate test	+
Nitrate reduction	+
Carbohydrate fermentation	
Glucose	+
Maltose	-
Sucrose	+
Lactose	-



Supplementary Figure S1. UV spectrum of EPSF9 isolated from *Bacillus rugosus* SYG2

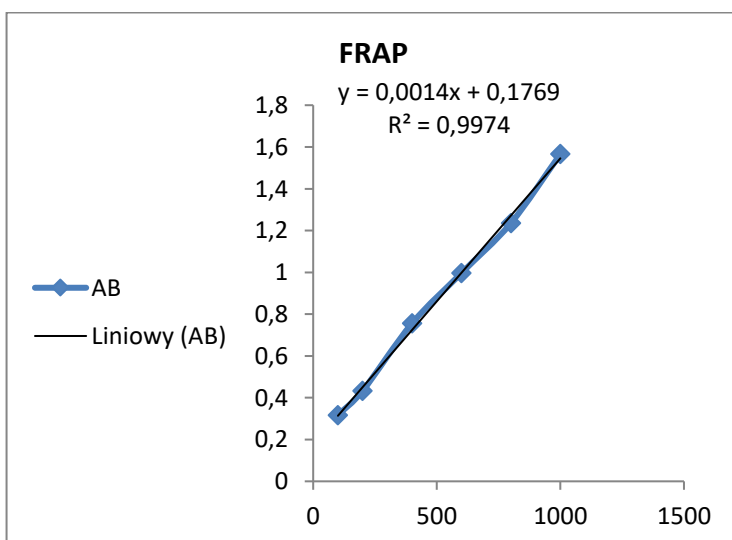
Total antioxidant capacity (TAC)



TAC Ascorbic con. [µg/ml]	Absorbance
1000	1.295
800	0.963
600	0.692
400	0.455
200	0.211
100	0.124

Supplementary Figure S2. TAC activity of ascorbic acid

Ferric reducing antioxidant power (FRAP) assay



FRAP ascorbic con. [µg/ml]	Absorbance
1000	1.566
800	1.236
600	0.997
400	0.756
200	0.433
100	0.317

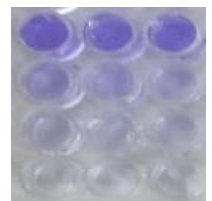
Supplementary Figure S3. FRAP activity of Ascorbic acid

Supplementary Table SIII. EPSR9 Antibiofilm % against *St.aureus*, *E.faecalis*, and *K. pneumonia* at different MBC%

EPSR9/<i>S. aureus</i>	Replicate1 Ab	Replicate2 Ab	Replicate 3 Ab	Mean±SD	Anti- Biofilm Activity %
Blank (media only)	0.005	0.001	0.003	0.003 ±0.002	
Media + Organism (cont.)	1.963	1.955	1.96	1.959 ±0.004	
25% of MBC	1.455	1.463	1.463	1.460 ±0.005	37.06
50% of MBC	0.925	0.911	0.904	0.913 ±0.011	60.70
75% of MBC	0.639	0.647	0.643	0.643 ±0.004	67.28



EPSR9/<i>E. faecalis</i>	Replicate1 Ab	Replicate2 Ab	Replicate 3 Ab	Mean± SD	Anti- biofilm activity %
Blank (media only)	0.005	0.001	0.003	0.003 ±0.002	
Media + Organism (cont.)	2.369	2.374	2.372	2.372 ±0.003	
25% of MBC	0.917	0.899	0.911	0.909 ±0.009	61.76
50% of MBC	0.487	0.479	0.483	0.483 ±0.004	79.74
75% of MBC	0.362	0.367	0.358	0.362 ±0.005	84.83



EPSR9/<i>K. pneumoniae</i>	Replicate1 Ab	Replicate2 Ab	Replicate 3 Ab	Mean ±SD	Anti- Biofilm Activity %
Blank (media only)	0.005	0.001	0.003	0.003 ±0.002	
Media + Organism (cont.)	2.145	2.144	2.141	2.143 ±0.002	
25% of MBC	1.063	1.049	1.052	1.055 ±0.007	50.86
50% of MBC	0.622	0.623	0.625	0.623 ±0.002	71.01
75% of MBC	0.411	0.413	0.415	0.413 ±0.002	80.84

