Exopolysaccharides from vaginal lactobacilli modulate microbial biofilms

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Additional file

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Table S1 Retention time, regression analysis, and LOD for the PMP-monosaccharides found in EPS.

Monosaccharide	Retention time (min)	Linearity range (μM)	Regression equation, y = mx + q		Correlation coefficient	Limit of quantification (LOQ) (μM)
			m	q		
D-mannose	9.8	0.098-25	20932	-945	0.9999	0.064
D-glucosamine	11.4	0.20-50	19487	-1604	0.9999	0.10
D-rhamnose	13.4	0.39-25	18047	-1347	0.9997	0.34
D-galactosamine	16.4	0.20-50	23338	-388	0.9997	0.15
D-glucose	22.3	0.20-50	14146	-1587	0.9996	0.15
D-galactose	23.4	0.20-25	13045	-461	0.9994	0.18
D-xylose	25.1	0.098-50	15293	981	0.9994	0.064
D-fucose	27.2	0.39-25	13834	-732	0.9991	0.20

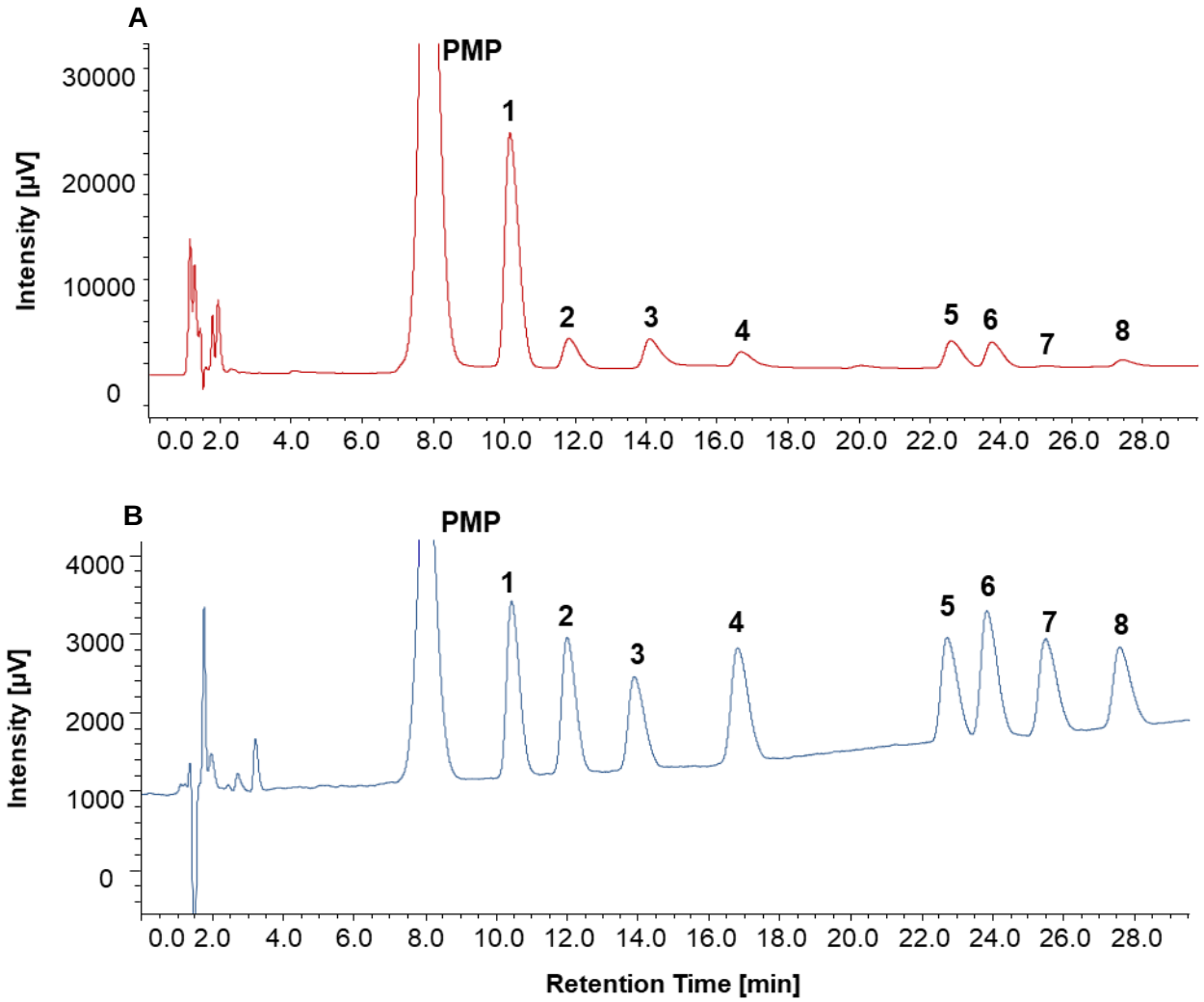

Fig. S1 Representative chromatographic analysis of (**A**) derivatized monosaccharides released upon hydrolysis of EPS-BC5, and (**B**) mixture of eight standard PMP-monosaccharides. Peaks: 1: D-mannose; 2: D-glucosamine; 3: D-rhamnose; 4: D-galactosamine; 5: D-glucose; 6: D-galactose; 7: D-xylose; 8: D- fucose. Exceeding PMP elutes with the shortest retention time.

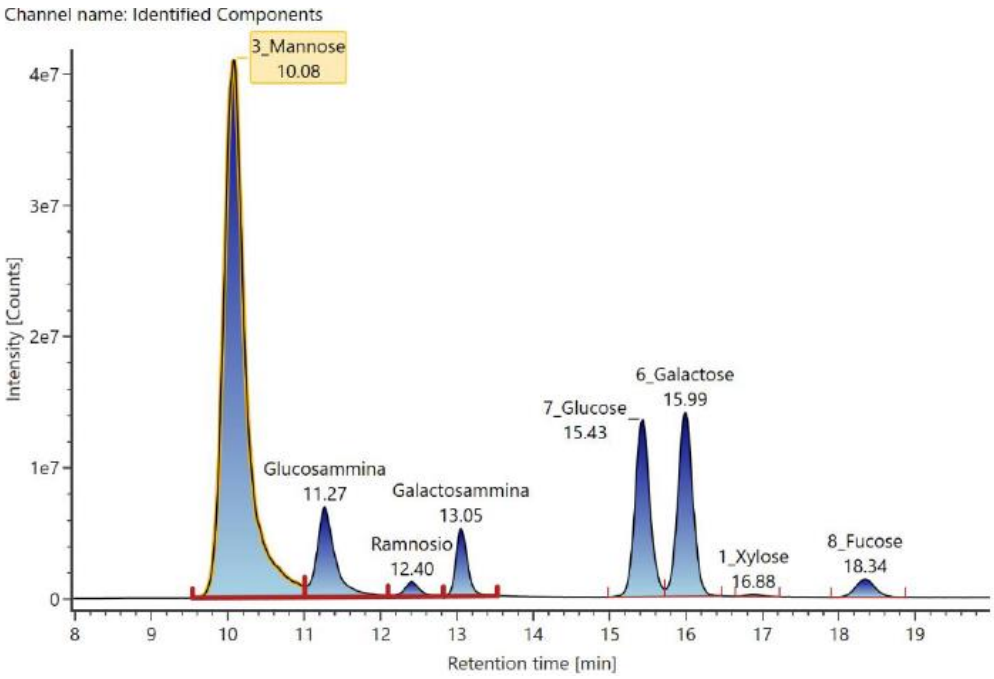

Fig. S2 Representative LC-MS chromatogram of PMP-monosaccharides released upon hydrolysis of EPS-BC5. The peak identification was achieved on the basis of analyte retention time, molecular weight of the parent ions, and fragment ions (Unifi Software).

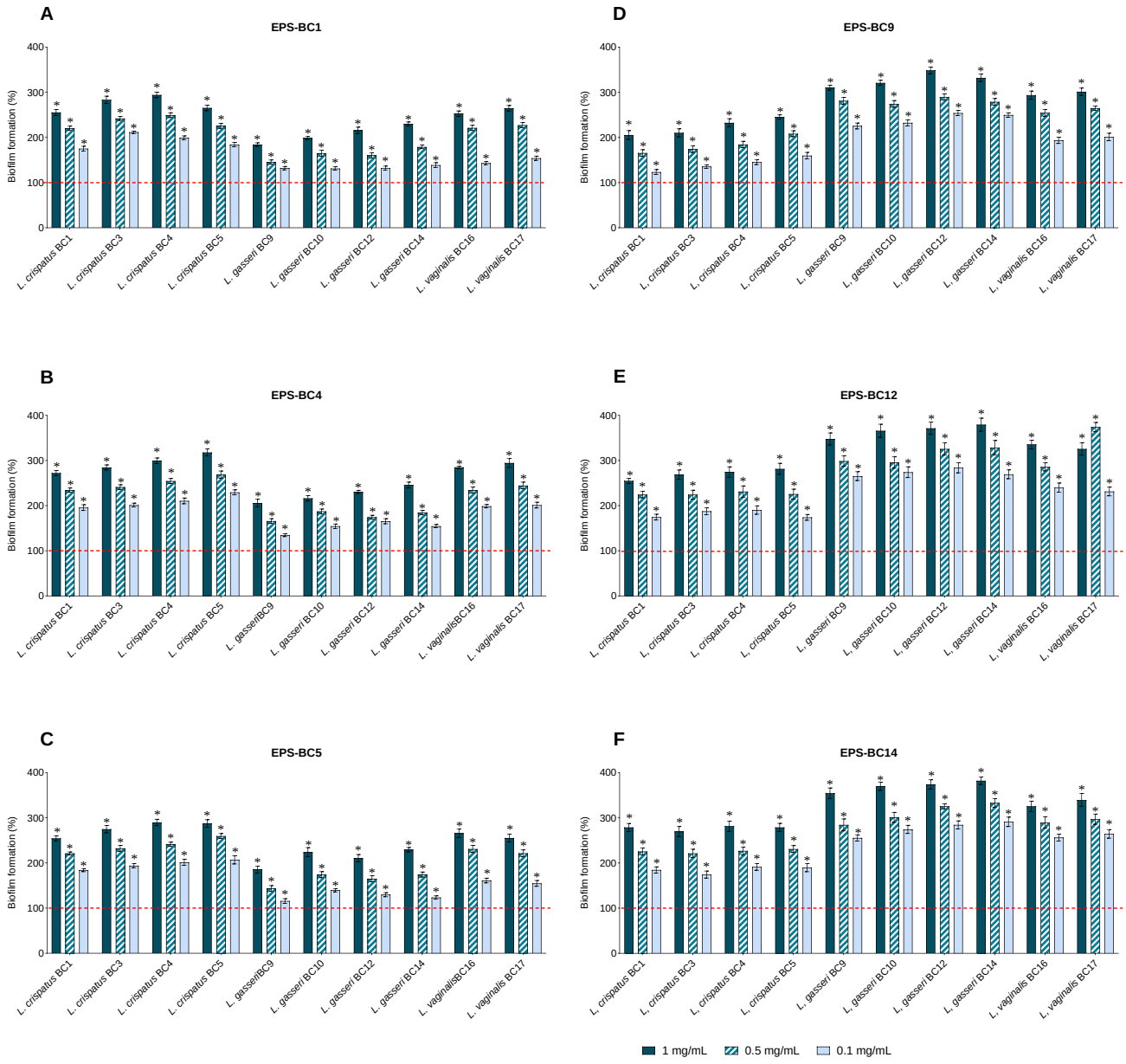

Fig. S3 Effects of (**A)** EPS-BC1, (**B**) EPS-BC4, (**C**) EPS-BC5, (**D**) EPS-BC9, (**E**) EPS-BC12 and (**F**) EPS-BC14 at three concentrations (0.1, 0.5, 1 mg/mL) on the biofilms of lactobacilli, evaluated through CV staining. The results are expressed in percentage with respect to control (100%, red line) (mean ± SD, $n = 3$). * $p < 0.05$.

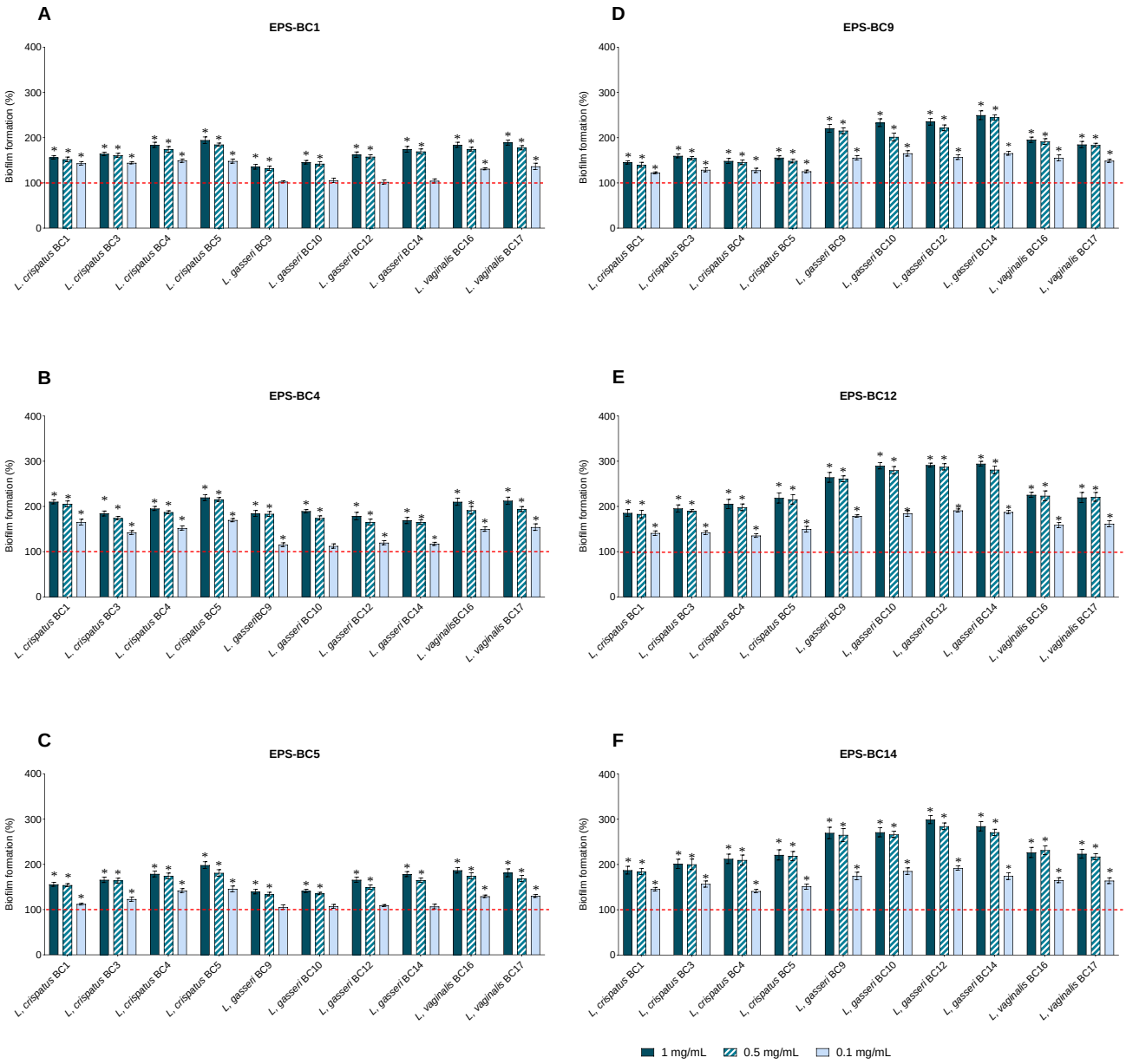

Fig. S4 Effects of (**A**) EPS-BC1, (**B**) EPS-BC4, (**C**) EPS-BC5, (**D**) EPS-BC9, (**E**) EPS-BC12 and (**F**) EPS-BC14 at three concentrations (0.1, 0.5, 1 mg/mL) on the biofilms of lactobacilli, evaluated through MTT assay. The results are expressed in percentage with respect to control (100%, red line) (mean ± SD, $n = 3$). * $p < 0.05$.

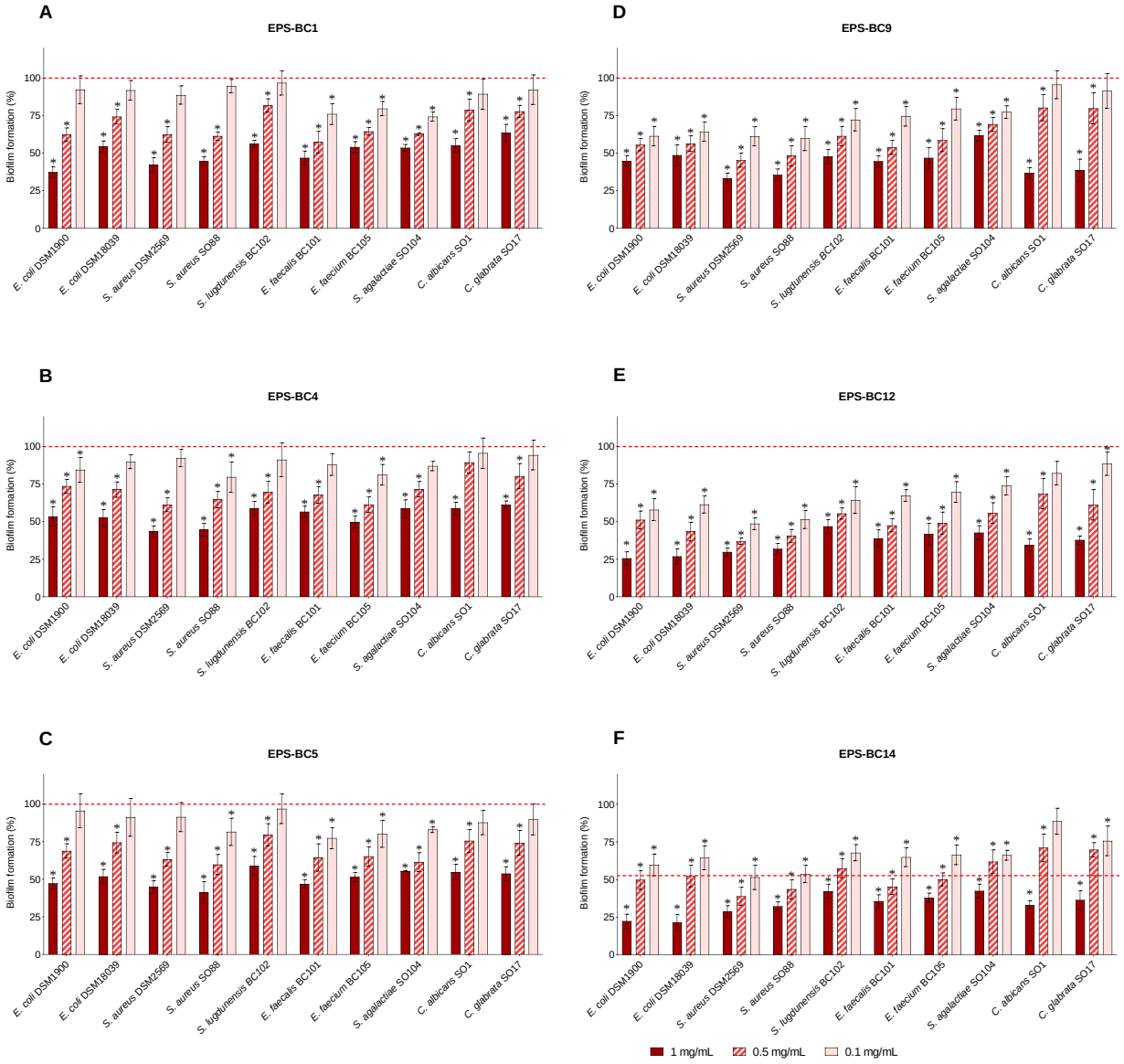

Fig. S5 Effects of (**A**) EPS-BC1, (**B**) EPS-BC4, (**C**) EPS-BC5, (**D**) EPS-BC9, (**E**) EPS-BC12 and (**F**) EPS-BC14 at three concentrations (0.1, 0.5, 1 mg/mL) on the biofilms of pathogens, evaluated through CV staining. The results are expressed in percentage with respect to control (100%, red line) (mean ± SD, $n = 3$). * $p < 0.05$.

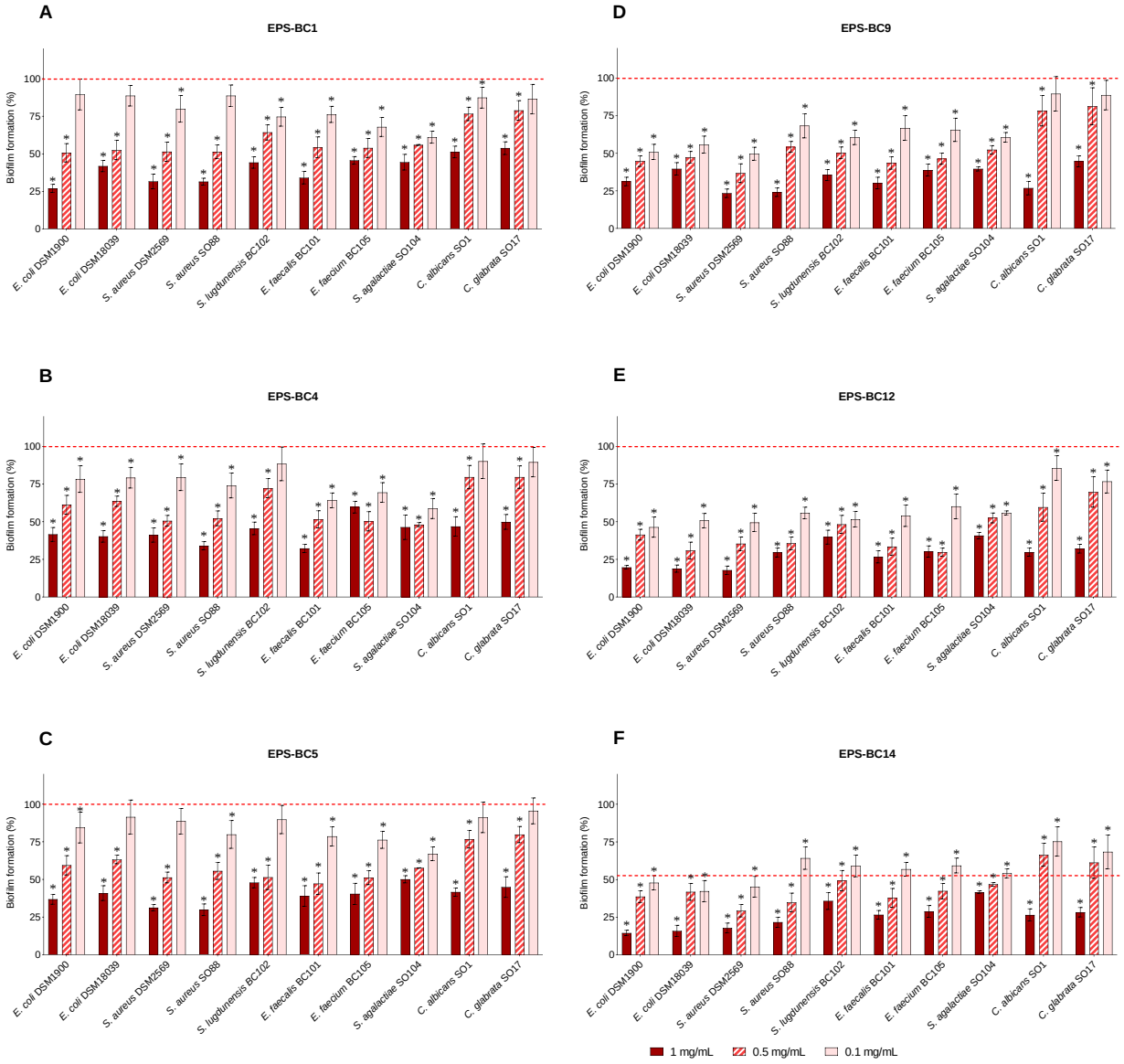

Fig. S6 Effects of (**A**) EPS-BC1, (**B**) EPS-BC4, (**C**) EPS-BC5, (**D**) EPS-BC9, (**E**) EPS-BC12 and (**F**) EPS-BC14 at three concentrations (0.1, 0.5, 1 mg/mL) on the biofilms of pathogens, evaluated through MTT assay. The results are expressed in percentage with respect to control (100%, red line) (mean ± SD, $n = 3$). * $p < 0.05$.

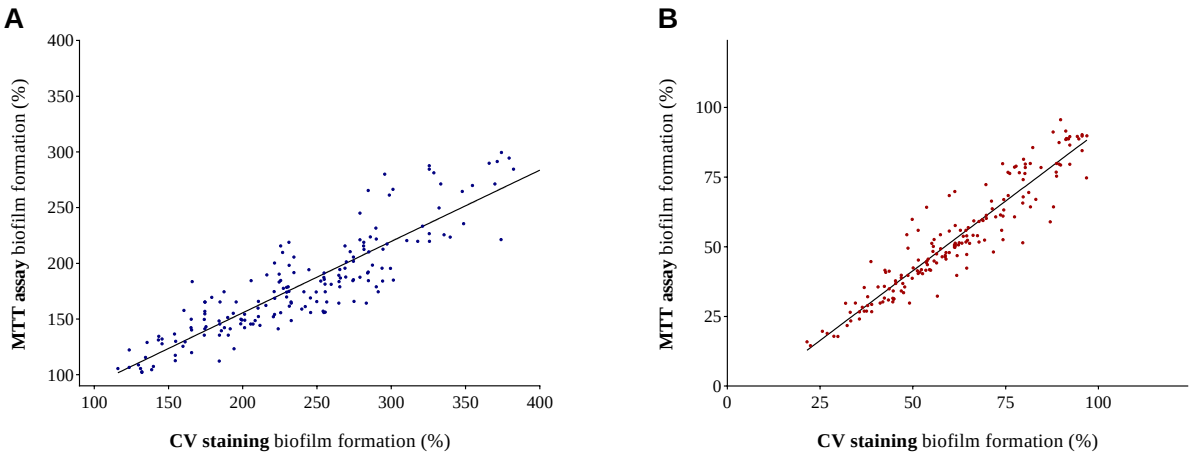

Fig. S7 Correlation graphics between results collected through CV staining and MTT assay towards biofilms of lactobacilli (**A**) and pathogens (**B**). Data obtained testing EPS (EPS-BC1, EPS-BC4, EPS-BC5, EPS-BC9, EPS-BC12 and EPS-BC14) at three concentrations (0.1, 0.5 and 1 mg/mL) are included in the analyses.