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1 **Dynamic surface tension measurement for the screening of**  
2 **biosurfactants produced by *Lactobacillus plantarum***

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9

10 **Abstract**

11 Currently, screening of microbial biosurfactants (BSs) is based on their equilibrium surface  
12 tension values obtained using static surface tension measurement. However, a good  
13 surfactant should not only have a low equilibrium surface tension, but its dynamic surface  
14 tension (DST) should also decrease rapidly with time. In this study, screening of BSs  
15 produced by *Lactobacillus plantarum* subsp. *plantarum* PTCC 1896 (probiotic) was  
16 performed based on their DST values measured by Wilhelmy plate tensiometry. The  
17 relationship between DST and structural and functional properties (anti-adhesive activity)  
18 of the BSs was investigated. The results showed that the changes in the yield, productivity  
19 and structure of the BSs were growth medium and incubation time dependent ( $p < 0.05$ ).  
20 Structurally different BSs produced exhibited identical equilibrium surface tension values.

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