

## Low-cost fermentative medium for biosurfactant production by *Streptococcus thermophilus* A

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Interest in biosurfactants has increased considerably in recent years, as they are potential candidates for many commercial applications in the petroleum, pharmaceuticals, biomedical and food processing industries. Biosurfactants have several advantages over chemical surfactants including lower toxicity and higher biodegradability, and effectiveness at extreme temperatures or pH values. In spite of the advantages, fermentation must be cost competitive with chemical synthesis and many of the potential applications that have been considered for biosurfactants depend on whether they can be produced economically. The use of alternative molasses medium (sucrose content 20 g/L, supplemented with 3 g/L yeast extract and 5 g/L peptone) for biosurfactant production by *Streptococcus thermophilus* A was studied. Suitable models were established to describe the response of the experiments pertaining to glucose or sucrose consumption, cell growth and biosurfactant production. Conventional synthetic M17 broth was used as control experiments. The replacement of M17 broth by cheaper molasses medium resulted on an increase about 1.4 times in the mass of produced biosurfactant (mg) per gram cell dry weight and a 80% medium preparation costs reduction. In conclusion, the results obtained showed that molasses medium can be used as a relatively inexpensive and economical alternative to conventional synthetic medium for biosurfactant production by *S. thermophilus* A.

### References:

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