Production of PS-7 by *Beijerinckia indica* L3 cultured with whey

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Abstract

The polysaccharide, PS-7 produced by *Beijerinckia indica* has the potential application in food industry, oil mining etc. [1]. A mutant strain of *Beijerinckia indica*, *Beijerinckia indica* L3 isolated in this study could grow in a mineral salts medium with lactose as a carbon source (MSLM). The β-galactosidase was expressed constitutively without induction and its activity in the mutant was higher than that in parent strain [2]. The highest amount of PS-7 produced by the mutant was 2.88 g/L with a viscosity of 4530 cp in MSLM medium. The PS-7 production was enhanced by the addition of 4g/L glucose into MSLM medium, reaching 5.52 g/L with a viscosity of 39531 cp. When the mutant was grown in a whey medium (WM), 6.18 g/L of PS-7 with a viscosity of 45772 cp were produced. The PS-7 production from the mutant reached 7.04 g/L when 4 g/L glucose was added to the WM medium. The structure of PS-7 produced by the mutant or parent strain grown in WM or MSM, respectively, was maintained in the stable range of the ratios of glucose/rhamnose [3]. Therefore, the dairy whey can be used as a useful substrate to culture *Beijerinckia indica* L3 for the production of the PS-7. Finally, the production cost of PS-7 can be reduced.

References

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