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## Carbohydrate-enzyme interaction increases stability and reusability of maltase in entrapped environment

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Maltase ( $\alpha$ -glucosidase) catalyzes the degradation of maltose into glucose and plays a central role in food industries. Partially purified maltase from *Bacillus licheniformis* KIBGE-IB4 was used for strong interaction within anionic polysaccharide (alginate) in the form of beads. The calcium alginate beads having 2.0 mm bead size showed higher activity. The stability of maltase against different temperatures was increased after entrapment and entrapped maltase showed higher resistance against different temperatures as compared to free maltase. The entrapped maltase showed admirable recycling efficiency and retained more than 60% of its initial activity even after third cycle. The results suggest that the approach of matrix entrapment within calcium alginate beads of maltase is a promising bioprocess technology to construct bioreactor for practical food industrial application.

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