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Czech J. Food Sci.

**Blanco K.C., de
Moraes F.F., Bernardi**

**N.S., Vettori M.M.M. .D.,
Monti R., Contiero J.:**
**Cyclodextrin
production by *Bacillus
lehensis* isolated from
cassava starch:
Characterisation of a
novel enzyme**

Czech J. Food Sci., 32 (2014): 48-53

The properties of a previously unknown enzyme, denominated cyclodextrin glycosyltransferase, produced from *Bacillus lehensis*, were evaluated using affinity chromatography for protein purification. Enzyme characteristics (optimum pH and temperature; pH and temperature stability), the influence of substances on the enzyme activity, enzyme kinetics, and cyclodextrin production were analysed. Cyclodextrin glycosyltransferase was purified up to 320.74-fold by affinity chromatography using β -cyclodextrin as the binder and it exhibited 8.71% activity recovery. This

enzyme is a monomer with a molecular weight of 81.27 kDa, as estimated by SDS-PAGE. Optimum temperature and pH for cyclodextrin glycosyltransferase were 55° C and 8.0, respectively. The Michaelis-Menten constant was 8.62 g/l during maximum velocity of 0.858 g/l.h.

Keywords:

cyclodextrin glycosyltransferase;affinity chromatography; purification

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