P25

Optimal condition for glucoamylase production by *Rhizopus* sp. JP-3 isolated from Nuruk

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In our laboratory, we have produced Ascorbic acid 2-*O*-α-D- glucoside (AA-2G) which is an α-glucose conjugate of AA at the c-2 position and a stable AA derivative synthesized from AA and maltose or oligosaccharide by the use of transglucosylation enzymes. But in the early stage of reaction, 2-O-α-D-oligoglucosides (AA-2Gn) beside AA-2G were synthesized. To develop a method for a mass production of AA-2G, it is necessary that AA-2Gn formed by *Paenibacillus* sp. JB-13 CGTase are converted to AA-2G by the additional treatment with glucoamylase. As glucoamylase is commercially available for the production of glucose, it is very advantageous to use this enzyme for the AA-2G.

Therefore, we isolated glucoamylase-producing mold from traditional Korean Nuruk and it was identified as *Rhizopus* sp. by 16s rDNA sequence. The optimal culture condition for glucoamylase production was 1.5% potato starch as a carbon source, the simultaneous addition of 1.25% yeast extract and 1.25% polypeptone as nitrogen source, 0.15% KH_2PO_4, 0.05% KCl, 0.05% $MgSO_4 \cdot 7H_2O$ for 96hrs at 30℃, pH6.0.