



## Optimization of medium for the production of $\beta$ -cyclodextrin glucanotransferase using Central Composite Design (CCD)

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### Abstract

Production of cyclodextrin glucanotransferase (CGTase) from *Bacillus* G1, a new bacterial isolate was optimized in shake-flask cultures using statistical design approach. An efficient fermentation medium producing CGTase with high activity (54.9 U/ml) was determined: A 2<sup>5</sup> Central Composite Design (CCD; half fraction) has been chosen to elucidate the combined effect of five process variables; tapioca starch, peptone, yeast extract, magnesium sulphate and potassium phosphate concentration. Concentrations of 4% tapioca starch, 2% peptone, 0.04% magnesium sulphate and 1% sodium carbonate have been shown to be optimum for the production of CGTase.

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