

Cloning, purification and characterization of a thermostable amylosucrase from *Deinococcus geothermalis*

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Amylosucrase is a transglucosidase that catalyses the synthesis of an amylose-type polymer from sucrose, an abundant agro-resource. Here we describe a novel thermostable amylosucrase from the moderate thermophile *Deinococcus geothermalis* (DGAS). The *dgas* gene was cloned and expressed in *E. coli*. The encoded enzyme was purified and characterized. DGAS displays a specific activity of 44 U per mg, an optimal temperature of 50°C and a half-life of 26 h at 50°C. Moreover, it produces at 50°C an α -glucan, with an average *DP* of 45 and a polymerization yield of 76 %. DGAS is thus the most active and thermostable amylosucrase known to date.