Construction of mutant heparinase I with significantly increased specific activity.

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Abstract

The cleavage of heparin by heparin lyases showed great potential as a cost-effective and innoxious method for producing heparin with low molecular weight (LMWH). One of the most studied and sought heparin lyase is heparinase I (HepI). However, the industrial use of HepI was largely hampered by its low specific activity and thermal stability. In this article we describe increasing in specific heparinase I activity by stepwise site-directed mutagenesis. Thus after two cycles of mutagenesis, we obtained mutant heparinase I Flavobacterium heparinum with significantly increased specific activity (25%).

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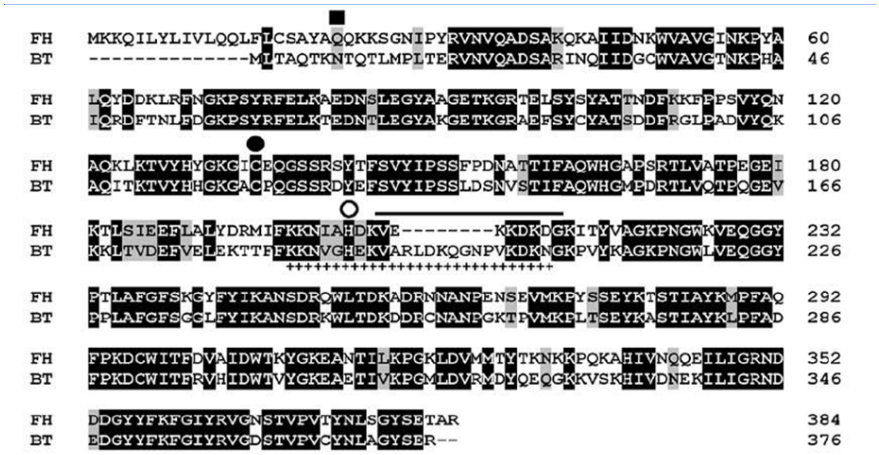

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