Screening genus Penicillium for producers of cellulolytic and xylanolytic enzymes - DTU Orbit (22/08/2019)

Screening genus Penicillium for producers of cellulolytic and xylanolytic enzymes

For enzymatic hydrolysis of lignocellulosic material, cellulolytic enzymes from Trichoderma reesei are most commonly used, but, there is a need for more efficient enzyme cocktails. In this study, the production of cellulolytic and xylanolytic enzymes was investigated in 12 filamentous fungi from genus Penicillium and compared with that of T. reesei. Either Solka-Floc cellulose or oat spelt xylan was used as carbon source in shake flask cultivations. All the fungi investigated showed coinduction of cellulolytic and xylanolytic enzymes during growth on cellulose as well as on xylan. The highest filter paper activity was measured after cultivation of Penicillium brasilianum IBT 20888 on cellulose.

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