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[\[PDF \(439K\)\]](#) [\[References\]](#)**Transglycosylation Reaction and Acceptor Specificity of Exo- and Endo-type Cellulases**Kouichi Nozaki¹⁾, Akemi Kano¹⁾, Yoshihiko Amano¹⁾, Takeomi Murata²⁾, Taichi Usui²⁾, Ken Ito³⁾ and Takahisa Kanda¹⁾

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The possibility of transglycosylation and acceptor specificity of cellulases, CBH I, CBH II, EG II (*Trichoderma reesei*), Ex-1 (*Irpex lacteus*) and Exo-A (*Aspergillus niger*) was investigated by using cellotriose (G3) and *p*-nitrophenyl- β -D-glucoside (pNPG1) as a donor and an acceptor, respectively. Among exo-type cellulases, CBH I effectively accumulated two transfer products, pNP- β -D-cellobioside and 3-*O*- β -D-cellobiosyl-pNP- β -D-glucoside. They were produced by the transfer of a cellobiosyl unit resulting in G3 hydrolysis to pNPG1 with β -1,4 or β -1,3 glycosidic bonds, respectively. On the other hand, endo-type cellulase EG II, produced pNP- β -D-cellobioside, pNP- β -D-gentiobioside and pNP- β -D-laminaribioside. These might be synthesized by the glucosyl transfer produced from G3 or pNPG1 to pNPG1 with β -1,4, β -1,6 or β -1,3 glycosidic bonds. Furthermore, CBH I and EG II catalyzed transglycosylation to various pNP-glycosides. From the study of acceptor specificity for CBH I and EG II, pNP- α -D-galactoside in addition to pNP-glycosides with β -configuration was used as the acceptor.

Key words: cellulase, transglycosylation, acceptor specificity[\[PDF \(439K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

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