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Development of rapid and simple kit for IgG Glycan preparation

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Glycan analysis is necessary for development, production and quality control of antibody drugs. We had already launched BlotGlyco® kit for glycan purification. However the glycan preparation require quickness and simplicity recently. Therefore we tried to develop a rapid and simple kit for antibody glycan preparation. The glycan preparation generally consists of 4 processes such as antibody purification from cell culture supernatant, glycan release from antibody, glycan purification and glycan derivatization. The total operation takes 1-2 days. First, we challenged to improve the four processes. Secondly, we tried to shorten and integrate the processes. Finally we developed rapid and simple method which take 2 hours from antibody purification to derivatized glycan preparation for liquid chromatography(LC). The LC peak patterns of glycan samples acquired with the developed method were comparable to those with conventional method. The developed method was applied to practical spin tube type kit for antibody glycan preparation. The kit includes a column for antibody purification, PNGase F for glycan release, reagents of derivatization with 2-aminobenzamide and a cleanup column for removal of excess reagent. Kit users need to prepare only some reagents such as acetic acid, dimethyl sulfoxide, acetonitrile. Required equipments are centrifuge and heat block. We are developing high throughput type kit and automation with the kit.

Biography

Masaaki Toyoda has completed his PhD and Postdoctoral studies from the National Institute Of Advanced Industrial Science And Technology (AIST). He is the Senior Researcher of S-BIO Business Division.

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