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Title (English)

Release and analysis of O- and N-linked oligosaccharides from glycoproteins

Title (Swedish)

Abstract

Post-translational addition of oligosaccharides is known to modulate the activity, half-life and immunogenicity of proteins. O-linked oligosaccharides were released from glycoproteins by three different forms of alkaline beta-elimination. The released O-glycans were successfully analyzed by high pH anion-exchange chromatography with pulsed amperometric detection, with two column types together providing full coverage of the known range of O-glycan structural diversity. N-linked glycans were released with peptide-N-glycosidase F, derivatized with 9-aminopyrene-1,4,6-trisulfonate and analyzed by capillary electrophoresis with laser induced fluorescence detection. Sequential enzymatic and chemical release of glycans enabled a full O- and N-glycan profile to be derived from the same glycoprotein starting material.

Keywords

O-glycan, N-glycan, alkaline beta-elimination, HPAEC-PAD,CE-LIF

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