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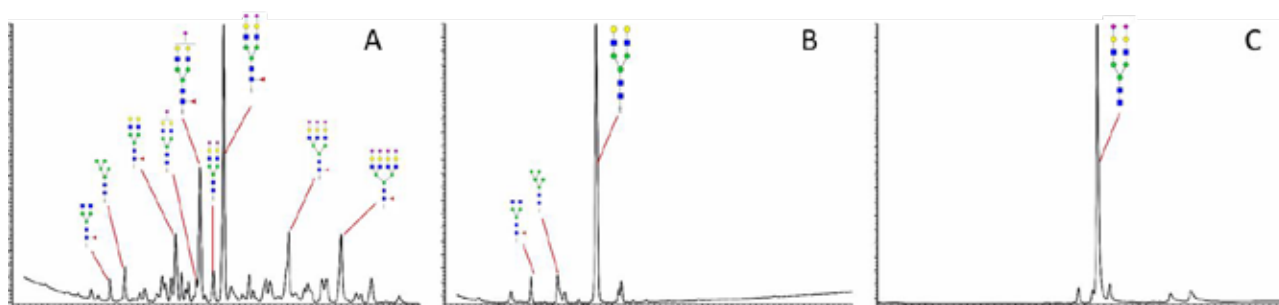


## Humanizing recombinant glycoproteins from Chinese hamster ovary cells

Anders Holmgaard Hansen<sup>1</sup>, Thomas Amann<sup>1</sup>, Stefan Kol<sup>1</sup>, Helene Fastrup Kildegaard<sup>1</sup>

<sup>1</sup> Novo Nordisk Foundation Center for Biosustainability. Technical University of Denmark. Lyngby.  
e-mail: [ahoha@biosustain.dtu.dk](mailto:ahoha@biosustain.dtu.dk)

With new tools for gene-editing like zinc-fingers, TALENS and CRISPR[1], it is now feasible to tailor-make[2] the N-Glycoforms for therapeutic glycoproteins that have previously been almost impossible. We here demonstrate a case of humanizing a recombinant human glycoprotein that in Wild type (WT) Chinese hamster ovary (CHO) cells are making a very heterogeneous mixture of N-Glycans (see Figure 1). We speculate that the CHO pattern of N-Glycans would affect half-life and/or efficacy of the glycoprotein in the bloodstream making it unsuitable for human intravenous use, whereas our humanized version would be identical to the native human glycoprotein.



**Figure 1.** Fluorescence trace from LC-MS run of RapiFlour labelled N-Glycans, released from purified glycoprotein. Heterogeneous N-Glycans from glycoprotein produced in CHO-WT (A). Glycoprotein produced in CHO-KO strain produces a much more homogenous pattern of N-Glycans (B). The N-Glycan pattern target for this work; N-Glycan pattern of Human plasma glycoprotein (C).

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