

10d Improving Therapeutic Protein Quality in Gs-Ns0 Cell Lines Using Culture Supplements

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This presentation addresses the feasibility and effectiveness of adding culture supplements to NS0 cell culture to positively impact protein quality. We investigated the addition of nucleotide sugar precursors to cell culture medium to cause desirable changes in the oligosaccharide pattern of a glycoprotein produced in the NS0 cell line. Glycosylated proteins produced in NS0 cell lines often terminate in alpha 1, 3 - linked galactose residues, a non human structure. Upon addition of glucosamine (GlcN), we were able to lower alpha 1, 3 - linked residues by 48% in shake flasks and by 65% in reactors. Product yields were not significantly different from controls that did not receive GlcN addition. We were also able to reduce Mannose-5 level by 80% through use of an in-house feed compared to a vendor feed. In cell culture a modification of the therapeutic protein was observed - a portion of the secreted protein had a pyruvate adduct. This presentation will discuss the impact of culture glucose and pyruvate level on the pyruvate adduct formation.