A Novel Platform of Protein Production, Amplification, and Control

Summary:
The core invention surrounds a novel glycan tagging system which facilitates protein secretion, purification, and increased yields of production.

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Benefits:
- Increased yield and purity of folded functional protein
- Dramatically reduced protein production costs compared to existing systems
- Quick and easy protein insertion into delivery expression system
- Applicability to production of all proteins
- Adaptability to other cell lines, such as a yeast expression systems and/or insect cells
- Ability to control high yield expression of proteases, glycosidases, and kinases

Applications:
The technology is broadly applicable to many areas of biomedical research from manufacturing and production to drug discovery.

Overview:
In nature, N-linked glycans attached to proteins signal the proteins for secretion. Lectin affinity is an established and effective method to isolate naturally glycosylated proteins from cellular expression systems.

This platform leverages these principles for the production of proteins by using a glycan tag as a secretion signal and purification handle in a mammalian cell line.

This technology is transformative because it provides higher protein yield and lower costs of production than existing platforms overcoming many of the problems of low yield, refolding, and activity control.

Why it is better:
Recent advances to the core platform allow for significant time savings, greater control of protein product production, and the achievement of high yield expression of proteases, glycosidases, and kinases, which are notoriously hard to produce in high yields due to cross reactions caused by their high native activity levels.

Patents:
WO 2011/059828

Additional Web Content:
Contact the inventor, Heather Desaire, Jennifer Laurence, Melinda Toumi, Jamie Wenke.