

Self-Cleaving Intein-Mediated Protein Purification in *Pichia Pastoris*

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Poster (2:20 PM)

The methylotropic yeast, *Pichia pastoris*, is a cheaper alternative to CHO for the production of glycosylated proteins. An economical protein purification system has been developed in *Pichia* which utilizes self-cleaving inteins to link purification tags and target proteins, thereby eliminating the need for proteolytic tag removal and making the method economically feasible on larger scales. Both chromatographic and non-chromatographic purification tags were investigated. A chitin-binding domain was successfully used to purify various proteins on chitin affinity resin. In addition, a non-chromatographic elastin-like polypeptide (ELP) purification tag was investigated. In the latter purification scheme, mild temperature shifts induce ELP aggregation and dissociation. This reversible precipitation allows for the separation of the ELP-bound target protein using a series of temperature shifts and centrifugation, ultimately resulting in a simple, economical purification system.