SYNTHETIC BIOLOGY APPROACHES FOR MAMMALIAN CELL FACTORY ENGINEERING

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Abstract

The production of high-quality recombinant proteins is critical to maintaining a continuous supply of biopharmaceuticals, such as therapeutic antibodies. Engineering mammalian cell factories presents a number of limitations typically associated with proteotoxic stress induced upon aberrant accumulation of off-pathway protein folding intermediates, which eventually culminate with the induction of apoptosis. Recent progress in mammalian synthetic biology provides unique opportunities to endow cells with programmable, user-defined behaviors, thereby addressing some of the challenges of current methods. In this review, we will discuss advances in synthetic biology to design efficient strategies for biomanufacturing.

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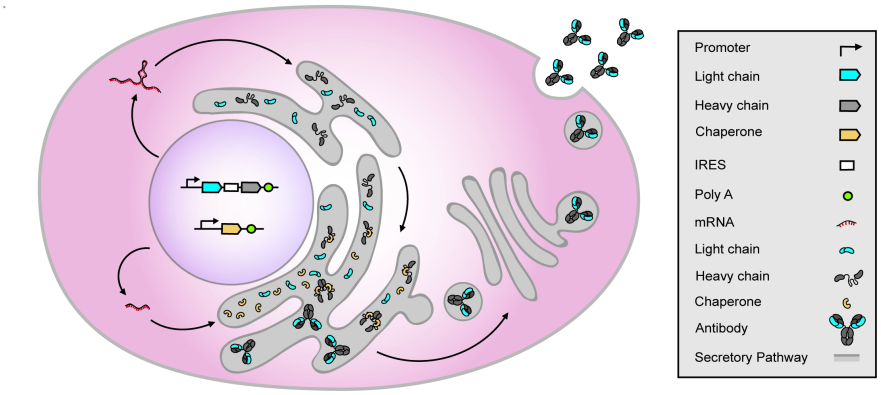

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