

EXPISF™: A CHEMICALLY-DEFINED BACULOVIRUS-BASED EXPRESSION SYSTEM FOR ENHANCED PROTEIN PRODUCTION IN SF9 CELLS

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The Baculovirus Expression Vector System (BEVS) is one of the major platforms for recombinant protein production and the last decade has become a preferred platform for vaccine development. Unlike mammalian expression systems that have long since transitioned to serum-free, chemically-defined culture media, relatively little innovation has taken place in insect expression systems, with insect cells continuing to rely on undefined, yeastolate-containing culture media that can exhibit significant lot-to-lot variability in terms of both cell growth and protein expression. Here, we present the development of a novel Sf9-based Baculovirus expression system based on a high-density, chemically-defined culture medium, a high-expressing Sf9 cell line, improved transfection reagent to faster generation of baculoviruses and expression enhancer that allow for consistent production of recombinant proteins with two-fold or greater improvements in protein titers compared to traditional BEVS workflows.