BIOPROCESSING OF RECOMBINANT E.COLI PRODUCING β-GLUCURONIDASE ENZYME
Bioprocessing Of Recombinant

*E. coli* Producing

*β*-Glucuronidase Enzyme

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Debottleneck Strategy and Economic Analysis of β-Glucuronidase Enzyme Production

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1. Introduction

Process simulator and other modeling tools are gaining recognition and popularity in the biotech industry. Task handled by the process simulator include material and energy balance of integrated processes, equipment sizing, cost analyses, scheduling of batch operations, environmental impact assessment, throughput analyses and debottlenecking (Shanklin et al., 2001; Petrides et al., 1994 and 1995; Athimulam et al., 2006; Tan et al., 2006).

After determined the process flow for β-glucuronidase production and its operating conditions, SuperPro-Designer will be applied to develop a model of the integrated processes. A process flowsheet will be developed reflecting the overall processes required to produce β-glucuronidase (Hamzah et al., 2006) in industrial scale starting from inoculation of E. coli in a test tube to the downstream processing. According to Demetri et al. (2002), a flowsheet is developed by putting together the required unit procedures and connecting them with material flow streams. A unit procedure is set of operations that