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BIOPROCESSING OF RECOMBINANT E.COLI PRODUCING β-GLUCURONIDASE ENZYME

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Contents

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Chapter 1

Media Optimization for Fermentation of Recombinant *Escherichia coli* using Response Surface Methodology

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1. Introduction

Complex media is a media that contains some ingredients of unknown chemical composition. Peptone is the main source of carbon, energy, nitrogen, vitamins, and minerals in the media (Prescott et al., 1999). Natural sugars from soya peptone promote bacterial growth while sodium chloride is used for osmotic balance. In some cases, defined media has the advantage over complex media. Compared to a production processes based on complex medium, the use of defined medium supplemented with 26g/l of glucose, allowed 13-fold increase in the *b*-glucuronidase volumetric activity (Martinez et al., 1996). Defined media has the potential in increasing the biomass and its products in a fermentation process and should be investigated further.

The objective of this study was to optimize the production of *β*-glucuronidase enzyme in shake flask fermentation of recombinant *E. coli* by manipulating the amount of peptone, sodium chloride, yeast extract and glucose in the media.