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**BIOPROCESSING OF RECOMBINANT
E.COLI PRODUCING β -GLUCURONIDASE
ENZYME**



**IIUM Press
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA**

Bioprocessing Of Recombinant *E. coli* Producing β -Glucuronidase Enzyme

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IIUM Press

Published by :
IIUM Press
International Islamic University Malaysia

First Edition, 2011
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Perpustakaan Negara Malaysia Cataloguing-in-Publication Data

Bioprocessing Of Recombinant E.Coli Producing β - Glucuronidase Enzyme
Maizirwan Mel
Include Index

ISBN 978-967-418-010-2

Member of Majlis Penerbitan Ilmiah Malaysia - MAPIM
(Malaysian Scholarly Publishing Council)

Printed by:
IIUM PRINTING SDN. BHD.
No. 1, Jalan Industri Batu Caves 1/3,
Taman Perindustrian Batu Caves,
Batu Caves Centre Point,
68100 Batu Caves,
Selangor Darul Ehsan

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Chapter 10

Modeling the Growth Kinetics Of *Escherichia coli* Fermentation In Bioreactors

*Ibrahim Ali Noorbatcha, Wan Norulhazrina Wan Hassan and
Maizirwan Mel*

1. Introduction

Microbial processes are usually analyzed using structured or unstructured models. Structures models take into account some basic aspects of cell structure, function and composition. In unstructured models, however only cell mass is employed to describe the biological system. In this study, an unstructured model for cell growth, product formation, and glucose consumption was found to characterize the fermentation process. We have analyzed the growth kinetics of thermophilic *b*-Glucuronidase enzyme (Miksch et al., 1997) by recombinant *Escherichia coli* (*E. coli*), using different types of model such as Monod, Logistic and Contois models.

b-glucuronidase is the enzyme that is responsible for the degradation of various polysaccharides or the cleavage of glucurono-conjugates. It is widely distributed in animal, plants, insects and bacteria, with particularly high concentrations in liver. It is classified as hydrolase, which catalyzes the hydrolysis of *b*-glucuronidase