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BIOPROCESSING OF RECOMBINANT E.COLI PRODUCING β-GLUCURONIDASE ENZYME

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On-Column Refolding of Recombinant Fungal Endoglucanase

Mohd Jamil Aizat Jamaluddin and Hamzah Mohd Salleh

1. Introduction

It has been known that expressing eukaryotic proteins in prokaryotic expression system like *Escherichia coli* has been an ideal productive source for straightforward industrial applicability. This, as a result, has raised many studies and developments involving recombinant enzyme production, in particular endoglucanase, in *E. coli* due to its proven feasibility and effectiveness in terms of inexpensive carbon source requirements for growth, rapid biomass accumulation and relatively simple scale-up process (de Marco, 2009; Sahdev et al., 2008; Neubauer et al., 2006; Weickert et al., 1996; Sorensen, 2003; Sorensen & Mortensen, 2005).

However, it has also gradually become a frustration since generally while a considerable amount of recombinant fungal endoglucanase in *E. coli* have indeed been produced, most of it is not soluble. Instead it is persistently found as an inactive insoluble protein aggregates known as inclusion bodies. This formation of insoluble aggregates owing to the high, mostly non-natural expression of proteins has been considered to be an unspecific process driven