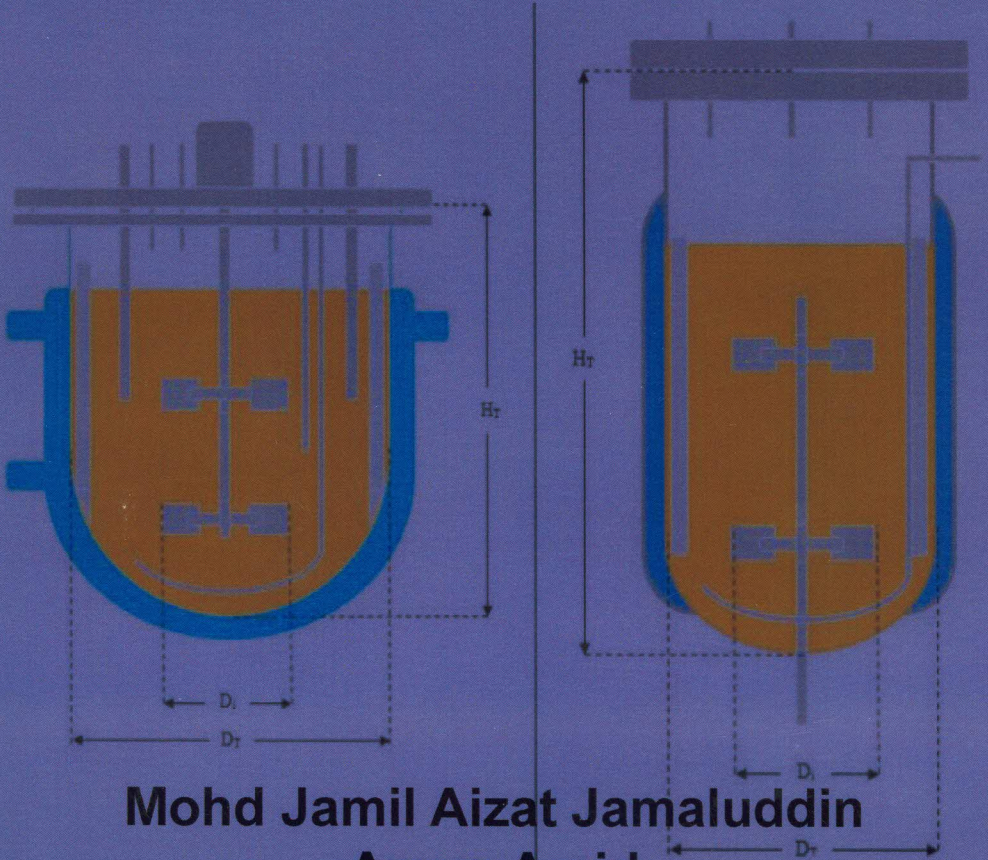


Production Of Intracellular Recombinant Bromelain

By

Escherichia Coli BL21-Ai

Using Shake Flask And Stirred Tank Bioreactor



Mohd Jamil Aizat Jamaluddin
Azura Amid



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MOHD JAMIL AIZAT JAMALUDDIN

AZURA AMID



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**PRODUCTION OF INTRACELLULAR RECOMBINANT BROMELAIN
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The optimization of recombinant protein production by *Escherichia coli* (*E. coli*) is an important first step to ensure economic feasibility and realization towards a sustainable future commercialization prospects. Bromelain, a protease native to pineapple plant species, is one of the commercially important therapeutic enzymes. In the field of bromelain research, production of recombinant Bromelain (recBromelain) using *E. coli* BL21-AI is one of the most recent novel developments to provide a more robust alternative as compared to conventional extraction approaches. Based on previous studies, the recBromelain indeed had proteolytic potency as effective as commercial bromelain. However, judging from the level of protein expression, the recBromelain productivity using *E. coli* BL21-AI expression system was too low to be considered for commercialization. It has been well established that suboptimal fermentation medium and process parameters which directly affect the growth of *E. coli* are among primary causes behind low recombinant protein expression.

Mohd Jamil Alzat Jamaluddin is a bioprocess engineer at Innobio Sdn Bhd. He graduated with his first and master degree from International Islamic University Malaysia. He is an expert in scaling up the fermentation process for bacterial system and downstream processing of recombinant enzyme, especially in the purification unit. He is now staying at Nilai, Negeri Sembilan.

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