Purification of Recombinant Proteins

VCU Innovation Gateway

E-coli Expressing *Serratia Marcescens* Nuclease

VCU researchers have developed a more cost effective method for the production of *Serratia marcescens* nuclease. *Serratia marcescens* nuclease is a well-known non-specific nuclease that digests single and double stranded RNA and DNA. It is widely used in the purification of recombinant proteins because it reduces or eliminates nucleic acids from the disrupted cells, and greatly decreases the viscosity of the resultant solution. While commercial versions of this enzyme are available, they are expensive. The novel method of production developed by Dr. Peterson creates an optimal version of the *Serratia marcescens* nuclease through a simplistic and cost effective method.

The technology

Dr. Peterson has developed a method of producing *Serratia marcescens* nuclease in E. Coli using the PET3 expression system. With this method, three different forms of the nuclease can be created: untagged, histidine tagged, removable histidine tag. The histidine tagged version is easily purified and can be used to digest nucleic acids from a variety of preparations, while the removable histidine tag version allows for the ready purification of large amounts of the nuclease. The untagged version eliminates the need to add the nuclease separately for protein purification, as the active nuclease will digest the released bacterial nucleic acids.

These versions are also more cost efficient than current methods of protein purification and are optimal for immediate use.

Benefits

- Cost effective
- Simple production methods

Applications

- Purification of recombinant proteins

License status:
This technology is available for licensing to industry for further development and commercialization.

Category:
Biomedical

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