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A One-Step Protocol for Chromatographic Purification of Non-recombinant Exogenous Bacterial Enzyme: Nuclease of Serratia marcescens

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Abstract

© 2016, Springer Science+Business Media New York.Serratia marcescens are well-known Gram-negative bacteria capable of excreting extracellular hydrolases, such as the nuclease—an enzyme that catalyzes hydrolysis of both DNA and RNA chains with a high efficiency. The nuclease has a number of attractive properties for use in biotechnology industry—outstanding enzymatic activity and low production cost. The existing protocols for purification of nuclease yield only limited amounts of protein and require complicated multistage procedures. Here, we report a chromatographic protocol for elegant one-step purification procedure resulting in a pure homogenous enzyme, as confirmed by gel electrophoresis and mass spectrometry.

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Keywords

Chromatographic purification, Gel electrophoresis, Homogeneous enzyme, Mass spectrometry, Serratia marcescens nuclease