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Title: Biochemical Characterization and Low-resolution SAXS Structure of an Exo-polygalacturonase from *Bacillus licheniformis* 

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## ACCEPTED MANUSCRIPT

Biochemical Characterization and Low-resolution SAXS Structure of an Exopolygalacturonase from *Bacillus licheniformis* 

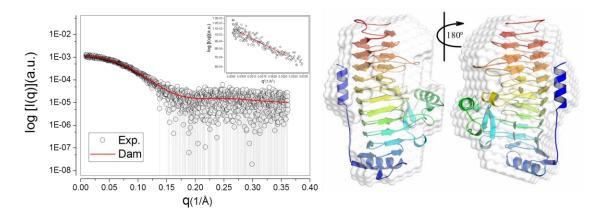
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### Graphical abstract:



#### Highlights:

- A novel pectinase from Bacillus licheniformis has been characterized
- The enzyme low-resolution SAXS molecular envelope has been obtained.
- The enzyme is monomeric and globular in solution.
- The enzyme releases monomers of galacturonic acid as a unique product.
- The enzyme is stable in a broad pH range (from pH 5 to 10)

#### **ABSTRACT**

Among the structural polymers present in the plant cell wall, pectin is the main component of the middle lamella. This heterogeneous polysaccharide has an  $\alpha$ -1,4 galacturonic acid backbone, which can be broken by the enzymatic action of pectinases,

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