Purification and Biochemical Characterization of Polygalacturonases Produced by *Aureobasidium pullulans*

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Z. Naturforsch. **60 c,** 91–96 (2005); received October 6/November 11, 2004

The extracellular polygalacturonases produced by *Aureobasidium pullulans* isolated from waters of the Danube river were partially purified and characterized. The pH optima of polygalacturonases produced in the first phases of cultivation (48 h) and after 10 d as well as their optima of temperature, thermal stabilities, molecular masses, isoelectric points, action pattern and ability to cleave polymeric and oligomeric substrates were compared. Polygalacturonases with a random action pattern (random cleavage of pectate forming a mixture of galactosiduronides with a lower degree of polymerization) [EC 3.2.1.15] were produced only in the first phases of growth, while exopolygalacturonases [EC 3.2.1.67] with a terminal action pattern (cleavage of pectate from the nonreducing end forming D-galactopyranuronic acid as a product) were found during the whole growth. The main enzyme form with a random action pattern was glycosylated and its active site had the arrangement described previously for the active site of polygalacturonase of phytopathogenic fungi.

Key words: *Aureobasidium pullulans*, Exopolygalacturonase, Polygalacturonase