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反应与分离

Separation, Purification and Characterization of Three Endo-polygalacturonases from a Newly Isolated Penicillum oxalicum

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摘要 Three endo-polygalacturonases (endoPGs) from a newly isolated Penicillum oxalicum (CGMCC 0907) capable of utilizing waste biomass as growth substrate were separated and purified to homogeneity by ultra-filtration, affinity adsorption chromatography, CM-cellulose column chromatography, and Sephadex G-100 gel filtration chromatography with the overall yield of 64.5% from the crude enzyme. The specific activities and recovery rates of endoPG-1, endoPG-2 and endoPG-3 were 1120 U/mg and 21.6%, 1350 U/mg and 25.9%, and 1560 U/mg and 17.0%, respectively. The three purified endoPGs had a close molecular weight to 41 kDa as estimated by SDS-PAGE. The optimum temperature and pH for the function of them were 65℃ and 5.0, 55℃ and 5.0, 50℃ and 5.5, respectively. Their pI and Km values were 5.9 and 0.78 mg/mL, 6.0 and 1.2 mg/mL, and 6.1 and 2.0 mg/mL, respectively.

关键词 separation characterization Penicillum oxalicum endo-polygalacturonase

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