

Molecular characterisation of a thermoactive β -1,3-glucanase from *Oerskovia xanthineolytica*

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Molecular characterisation of a lytic thermoactive β -1,3-glucanase from *Oerskovia xanthineolytica* LL-G109 has been performed. A molecular mass of $27\,195.6 \pm 1.3$ Da and an isoelectric point of 4.85 were determined by electrospray mass spectrometry and from its titration curve, respectively. Its thermoactivity profile shows it to be a heat-stable enzyme with a temperature optimum of 65°C. The secondary structure content of the protein was estimated by circular dichroism to be approx. 25% β -helix, 7% random coil, and 68% β -sheet and β -turn structure. Nuclear magnetic resonance spectra confirm the high content of β -structure. Furthermore, the presence of a compact hydrophobic core is indicated by the presence of slowly exchanging amide hydrogens and the enzyme's relatively high resistance to proteolysis. The N-terminal sequences of the intact protein and of a tryptic peptide each exhibit significant similarity to family 16 of glycosyl hydrolases whose overall fold is known to contain almos