

Molecular cloning and patten of expression of a
endo-beta-1,4-glucanase from the left-handed shell, *Physa acuta*.

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Abstract

To describe the set of mRNA expressed in the whole body of *Physa acuta*, we randomly sequenced the cDNA library of *Physa acuta*. Based on the BLAST analyses, we found 6 type of the partial fragment of the endogenous cellulase (endo-beta-1,4-glucanase) for the first time from the left-handed shell, *Physa acuta*. Primer extension was conducted to get the full-length cDNA. By overlapping the nucleotide sequences of the cDNAs obtained from the initial partial fragment and 3'-end sequences, the full length cDNA sequence of *Physa acuta* endo-beta-1,4-glucanase was determined. The coding region of 594 bp located at nucleotide position 97 bp - 690 bp gave an amino acid sequence of 197 residues including the initiation methionine. BLAST analyses with the full length cDNA of *Physa acuta* indicates that it has some identities to *Mytilus edulis* (46.5%), *Hypocrea jecorina* (41.1%), fungus (41.1%) and *Reticulitermes speratus* (30.5%). The precise function of the left-handed cellulase remains to be further studied.