

# Cloning and molecular analysis of a cDNA and the Cs-mnp1 gene encoding a manganese peroxidase isoenzyme from the lignin-degrading basidiomycete *Ceriporiopsis subvermispora*

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A cDNA (MnP13-1) and the Cs-mnp1 gene encoding for an isoenzyme of manganese peroxidase (MnP) from *C. subvermispora* were isolated separately and sequenced. The cDNA, identified in a library constructed in the vector Lambda ZIPLOX, contains 1285 nucleotides, excluding the poly(A) tail, and has a 63% G+C content. The deduced protein sequence shows a high degree of identity with MnPs from other fungi. The mature protein contains 364 amino acids, which are preceded by a 24-amino-acid leader sequence. Consistent with the peroxidase mechanism of MnP, the proximal histidine, the distal histidine and the distal arginine are conserved, although the aromatic binding site (L/V/I-P-X-P) is less hydrophilic than those of other peroxidases. A gene coding for the same protein (Cs-mnp1) was isolated from a genomic library constructed in Lambda GEM-11 vector using the cDNA MnP13-1 as a probe. A subcloned *SacI* fragment of 2.5 kb contained the complete sequence of the Cs-mnp1 gene, including 162 bp and 7