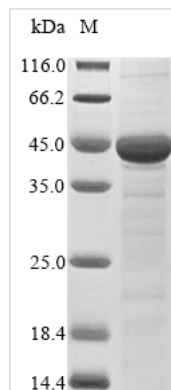




# Recombinant Lentinula edodes Peroxidase (mnp2c)

<b>Product Code</b>	CSB-EP2897LDV
<b>Abbreviation</b>	Recombinant Lentinula edodes mnp2c protein
<b>Storage</b>	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
<b>Uniprot No.</b>	B5U994
<b>Storage Buffer</b>	Tris-based buffer,50% glycerol
<b>Product Type</b>	Recombinant Proteins
<b>Immunogen Species</b>	Lentinula edodes (Shiitake mushroom) (Lentinus edodes)
<b>Purity</b>	Greater than 85% as determined by SDS-PAGE.
<b>Sequence</b>	APAAQNARCS DGT VVPNSIC CDFIPLAQDLTETL FENQCGETAHEVLR LRSFHD AIAISQSLGPSAGGGADGSMLIFPDVEPNFAANLGISDSVNDLAPFLASGKFPTI TAGDMIQFGAAVAVGLCPGAPQLEFRAGRPNATAPAVDGLIPEPQNTVDEILA RFQDAANMNAEDIVSLLVSHTVARADHVDPTLDAAPFDSTPFTFDSQFFLETLL TGVGFPGTTNNTGEVSSPLPLTVGDNV GELRLQSDFELARDSRTACFWQSMI NQEALMASRFKAAMAKMAVIGHNANDLIDCSAVVPKVPALNKPATFPATKTK ADVQQACPEPFPNLTTDRAPRETEIPHCPDNEATCTS
<b>Research Area</b>	Others
<b>Source</b>	E.coli
<b>Target Names</b>	mnp2c
<b>Expression Region</b>	21-377aa
<b>Notes</b>	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
<b>Tag Info</b>	N-terminal 10xHis-tagged and C-terminal Myc-tagged
<b>Mol. Weight</b>	42.6 kDa
<b>Protein Length</b>	Full Length of Mature Protein
<b>Image</b>	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

## Description

Recombinant *Lentinula edodes* Peroxidase (mnp2c) is produced in *E. coli* and includes the complete mature protein sequence from amino acids 21 to 377. The protein carries both an N-terminal 10xHis tag and a C-terminal Myc tag, which makes purification and detection more straightforward. SDS-PAGE analysis confirms the product achieves greater than 85% purity—a level that appears suitable for research applications requiring high-quality protein preparations.

Peroxidases from *Lentinula edodes*, including mnp2c, seem to play an important role in catalyzing substrate oxidation reactions using hydrogen peroxide. These enzymes are central to lignin breakdown and may have applications in bioremediation and various industrial processes. Studying these enzymes could offer insights into how fungi process nutrients and might contribute to progress in environmental and industrial biotechnology.

## Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

### 1. Enzyme Kinetics and Biochemical Characterization Studies

This recombinant *Lentinula edodes* peroxidase offers researchers a way to explore the basic enzymatic properties of fungal peroxidases. Studies might focus on substrate specificity, optimal pH and temperature ranges, and kinetic parameters. The dual His and Myc tags make protein purification and detection relatively simple, allowing scientists to examine enzyme-substrate interactions with different chromogenic and fluorogenic substrates. With its high purity level exceeding 85%, the protein appears well-suited for detailed biochemical analysis and comparisons with other members of the peroxidase family.

### 2. Protein-Protein Interaction Studies

The N-terminal His tag and C-terminal Myc tag seem particularly useful for pull-down assays and co-immunoprecipitation experiments aimed at identifying



potential binding partners or regulatory proteins. Scientists can take advantage of the His tag for immobilization on nickel-based resins while using the Myc tag for detection and validation of interactions. This strategy could potentially help clarify the molecular mechanisms that govern peroxidase regulation in fungal systems.

### **3. Antibody Development and Validation**

The recombinant protein may serve as an immunogen for creating specific antibodies against *Lentinula edodes* peroxidase, or it could work as a positive control in immunoassays. The Myc tag offers an additional epitope for validating antibody specificity, and the His tag allows for straightforward purification during antigen preparation. This application could support research into fungal enzyme expression patterns and studies of cellular localization.

### **4. Comparative Enzyme Evolution Studies**

Researchers might use this recombinant peroxidase in phylogenetic and structural comparison studies alongside peroxidases from other fungal species or different biological kingdoms. The standardized expression system and purification tags allow for consistent protein sample preparation in comparative biochemical analysis. This could help scientists better understand evolutionary relationships and functional diversification within the peroxidase enzyme family.

### **5. In Vitro Enzyme Assay Development**

The protein appears useful for developing and optimizing colorimetric or fluorometric assay systems that measure peroxidase activity. The dual tagging system supports both purification and quantification of the enzyme, which may help researchers establish standardized protocols for detecting peroxidase activity. Such protocols could potentially be applied to study fungal metabolism or environmental biotechnology applications in laboratory settings.

#### **Shelf Life**

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.

Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.