

## Catalase, Aspergillus niger

Cat. No.:	HY-135849
CAS No.:	9001-05-2
Target:	Reactive Oxygen Species
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

### Catalase, Aspergillus niger

#### SOLVENT & SOLUBILITY

In Vitro	H <sub>2</sub> O : 33.33 mg/mL (Need ultrasonic) DMSO : < 1 mg/mL (insoluble or slightly soluble)
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (Infinity mM); Clear solution; Need ultrasonic

#### BIOLOGICAL ACTIVITY

Description	Catalase, Aspergillus niger is a key enzyme in the metabolism of H <sub>2</sub> O <sub>2</sub> and reactive oxygen species (ROS), and its expression and localization is markedly altered in tumors <sup>[1]</sup> . Free oxygen radical scavenger.
In Vitro	Catalase, the enzyme that metabolizes H <sub>2</sub> O <sub>2</sub> but also reacts with a multitude of other substrates. The active site of catalase contains an iron atom. Human catalase contains four identical subunits, each subunit containing four distinct domains and one prosthetic heme group. The four domains include: (1) a N-terminal arm which contains a distal histidine, an essential amino acid for the catalase reaction; (2) a β-barrel domain that contains eight β-barrels arranged in an antiparallel fashion with six α-helical insertions, conferring the hydrophobic core of the protein necessary for the tri-dimensional structure of the enzyme; (3) a connection domain which contains the tyrosine residue that binds the heme group; and finally (4) an α-helical domains, which is important for NADPH binding <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### CUSTOMER VALIDATION

- Int Immunopharmacol. 2024 Jan 16:128:111537.

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#### REFERENCES

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[1]. Glorieux C, et al. Catalase, a remarkable enzyme: targeting the oldest antioxidant enzyme to find a new cancer treatment approach. Biol Chem. 2017 Sep 26;398(10):1095-1108.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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