

## Glucose oxidase

Cat. No.:	HY-P2902
CAS No.:	9001-37-0
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

## Glucose oxidase

### SOLVENT & SOLUBILITY

In Vitro	H <sub>2</sub> O : 50 mg/mL (Need ultrasonic)
In Vivo	1. Add each solvent one by one: PBS Solubility: 50 mg/mL (Infinity mM); Clear solution; Need ultrasonic

### BIOLOGICAL ACTIVITY

Description	Glucose oxidase is used in the food and beverage industry as a preservative and stabilizer and is commonly derived from the fungus <i>Aspergillus niger</i> . Glucose oxidase can react with intracellular glucose and oxygen (O <sub>2</sub> ) to produce hydrogen peroxide (H <sub>2</sub> O <sub>2</sub> ) and gluconic acid, which can cut off the nutrition source of cancer cells and consequently inhibit their proliferation <sup>[1]</sup> [2][3].
IC <sub>50</sub> & Target	Microbial Metabolite
In Vitro	Glucose oxidase is a subset of oxidoreductase enzymes that catalyzes the transfer of electrons from an oxidant to a reductant. Glucose oxidases use oxygen as an external electron acceptor that releases hydrogen peroxide (H <sub>2</sub> O <sub>2</sub> ). Glucose oxidase has many applications in commercial processes, including improving the color and taste, increasing the persistence of food materials, removing the glucose from the dried egg, and eliminating the oxygen from different juices and beverages [4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### CUSTOMER VALIDATION

- Biomaterials. 2022 Sep 27;290:121821.
- J Electroanal Chem. 2023 Sep 16, 117808.

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## REFERENCES

- [1]. Konishi T, et al. Safety evaluation of glucose oxidase from *Penicillium chrysogenum* [published correction appears in Regul Toxicol Pharmacol. 2013 Aug;66(3):300]. Regul Toxicol Pharmacol. 2013;66(1):13-23.
- [2]. Leskovic V, et al. Glucose oxidase from *Aspergillus niger*: the mechanism of action with molecular oxygen, quinones, and one-electron acceptors. Int J Biochem Cell Biol. 2005;37(4):731-750.
- [3]. Wang M, et al. Recent Advances in Glucose-Oxidase-Based Nanocomposites for Tumor Therapy. Small. 2019;15(51):e1903895.
- [4]. Khatami SH, et al. Glucose oxidase: Applications, sources, and recombinant production [published online ahead of print, 2021 Apr 11]. Biotechnol Appl Biochem. 2021;10.1002/bab.2165.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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