



Product Information

Catalase from bovine liver

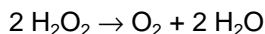
Product Number **C-40**
Storage Temperature -0°C

Product Description

EC Number: 1.11.1.6
CAS Number: 9001-05-2
Molecular weight: 250 kDa¹
Isoelectric Point: 5.4²
Extinction Coefficient: $E^{1\%} = 36.5$ (276 nm)³
Stoke's radius: 5.12 nm⁴
Synonyms: H₂O₂:H₂O₂ Oxidoreductase

Catalase from bovine liver is a tetramer consisting of 4 equal subunits with a molecular weight of 60 kDa each.⁵ Each subunit contains iron bound to a protoheme IX group. The enzyme also strongly binds NADP, of which the NADP and heme group are within 13.7 Å of each other.⁶

Catalase catalyzes the following reaction:



Catalase can also react with alkylhydrogen peroxides instead of H₂O₂, such as methylperoxide and ethylperoxide. In addition, many compounds can replace the second H₂O₂ molecule as the hydrogen donor including: methanol, ethanol, propanol, formate, and nitrate.⁷

Catalase does not require any activators, but is inhibited by 3-amino-1-H-1,2,4 triazole, cyanide, azide, hydroxylamine, cyanogen bromide, 2-mercaptoethanol, dithiothreitol, dianisidine, and nitrate.⁸ Catalase is also inhibited by ascorbate and ascorbate with Cu²⁺. Incubation of catalase with ascorbate or ascorbate/Cu²⁺ results in degradation of the catalase molecule.⁹ Catalase activity is constant over the pH range of 4.0-8.5.¹⁰ Sigma determines the activity of this enzyme at pH 7.0.

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This enzyme is soluble in 50 mM potassium phosphate buffer, pH 7.0 (2 mg/ml).

Storage/Stability

Solutions of catalase should not be frozen. Freezing stock solutions will cause a 50-70% loss in activity.

References

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