CATALASE from *Aspergillus niger* (Lot 160801b)

E-CATLQ **03/17**

(EC 1.11.1.16) hydrogen-peroxide:hydrogen-peroxide oxidoreductase
CAS: 9001-05-2

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Two major and two minor bands on SDS-gel electrophoresis (MW ~ 96,000 kDa), native protein exists as a tetramer[1].
- One major band on isoelectric focusing (pI ~ 6.8).

2. SPECIFIC ACTIVITY:

4,961 U/mg protein (using A_{240} method) at pH 7.0 and 25°C;

One Unit of catalase activity will decompose 1 micromole of H_2O_2 per minute at pH 7.0 and 25°C, while the H_2O_2 concetration falls from 10.3 mM to 9.2 mM. The rate of disappearance of H_2O_2 is followed by observing the rate of decrease in the absorbance at A_{240}.

~ 24,000 U/mg protein (using K-CATAL test kit method) at pH 7.0 and 25°C;

One Unit of catalase activity is defined as the amount of enzyme required to form 1 micromole of H_2O_2 per minute at pH 7.0 and 25°C at a substrate concentration of 75 mM H_2O_2.

3. SPECIFICITY:

Decomposition of hydrogen peroxide into water and oxygen.

4. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 6.5-7.5 and up to 45°C [2]

pH Optima:	7.0 [2]
Temperature Optima:	35 [2]
Temperature Stability:	65 [2]

5. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension and should be stored at 4°C. For assay, this enzyme should be diluted in potasssium phosphate buffer (150 mM), pH 7.0. **Swirl to mix the enzyme immediately prior to use.**

6. REFERENCES:

[1] Kikuchi-Torii, K., Hayashi, S., Nakamoto, H. & Nakamura, S. (1982). Properties of *Aspergillus niger* Catalase. *J. Biol. Chem.*, 92(5), 1449-1456.'

[2] Preety & Hooda. (2014). Immobilization and kinetics of catalase on calcium carbonate nanoparticles attached epoxy support. *Appl. Biochem. Biotechnol.*, 172(1), 115-130.