



## CATALASE from *Aspergillus niger* (Lot 160801c)

**Non-recombinant**

**E-CATLQ**

05/20

(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<sup>[1]</sup>.
- One major band on isoelectric focusing (pI ~ 6.8).

#### 2. SPECIFIC ACTIVITY:

**4,961 U/mg protein (using A<sub>240</sub> method) at pH 7.0 and 25°C;**

**One Unit** of catalase activity will decompose 1 micromole of H<sub>2</sub>O<sub>2</sub> per minute at pH 7.0 and 25°C, while the H<sub>2</sub>O<sub>2</sub> concentration falls from 10.3 mM to 9.2 mM. The rate of disappearance of H<sub>2</sub>O<sub>2</sub> is followed by observing the rate of decrease in the absorbance at A<sub>240</sub>.

**~ 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<sub>2</sub>O<sub>2</sub> per minute at pH 7.0 and 25°C at a substrate concentration of 75 mM H<sub>2</sub>O<sub>2</sub>.

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