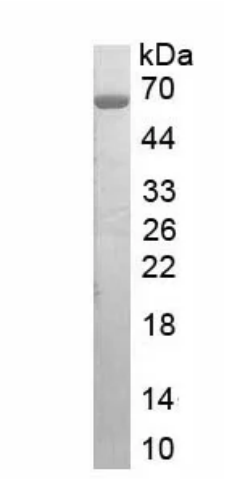
Active Catalase (CAT)

Catalog#:PER12849

概述（Summary）

纯度（Purity）	Greater than 95% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Asp3-Leu527】
Accession #	P04762
表达宿主（Host）	E.coli
种属（Species）	Rattus norvegicus (Rat)
预测分子量（Predicted MW）	63.2 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Occurs in almost all aerobically respiring organisms and serves to protect cells from the toxic effects of hydrogen peroxide. Promotes growth of cells.

电泳图（SDS-PAGE image）



Greater than 95% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

Calculation

$$CAT(U/mg)=\frac{3.45*d}{time*0.1}/\text{ mg enzymatic}$$

Where:
3.45=corresponds to the decomposition of 3.45 µmoles of hydrogen peroxide in a 3.0 ml reaction mixture producing a decrease in the A240 from 0.45 to 0.40
d=dilution factor
Time=minutes required for the A240 to decrease from 0.45 to 0.40 absorbance units
0.1 = milliliter of enzyme added to the cuvette

Catalase (CAT) is an antioxidant enzyme present in all aerobic organisms. It is known to catalyze H2O2 into water and oxygen in an energy-efficient manner in the cells exposed to environmental stress. H2O2 will have specific absorbance at 240 nm . when we add CAT， the absorbance wil decrease, thus the activiy of CAT can be measured by caculating H2O2 absorbance decrease. The reaction was performed in adding 10ul (dilute with 50mM Potassium Phosphate Buffer, pH 7.0) recombinant Rat CAT to 290ul substrate mixture solution (50mM Potassium Phosphate Buffer, pH 7.0, 0.036% H2O2, allow the substrate to equilibrate to 25 °C), quickly mixed, then record the time required for the A240 to decrease from 0.45 to 0.40 absorbance units. One unit of catalase will decompose 1.0 µmole of H2O2 per minute at pH 7.0 at 25 °C. The activity of recombiant Rat CAT is 176000 U/mg.

注意事项（Note）

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