

## Recombinant Human Catalase/CAT Protein (His Tag)

**Catalog Number:** PKSH030909

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

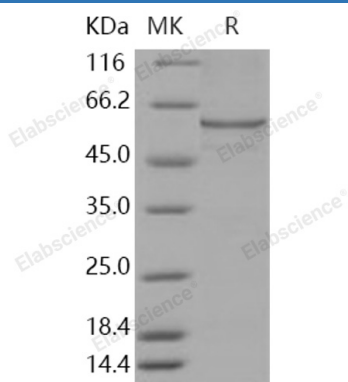
### Description

<b>Species</b>	Human
<b>Source</b>	Baculovirus-Insect Cells-derived Human Catalase/CAT protein Ala 2-Leu 527, with an N-terminal His
<b>Calculated MW</b>	61.9 kDa
<b>Observed MW</b>	60 kDa
<b>Accession</b>	P04040
<b>Bio-activity</b>	Not validated for activity

### Properties

<b>Purity</b>	> 80 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 °C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 8.0, 10% glycerol Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

### Data



> 80 % as determined by reducing SDS-PAGE.

### Background

### For Research Use Only

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Catalase is a ubiquitously expressed enzyme that catalyzes the decomposition of hydrogen peroxide to water and oxygen. It is a tetramer of four polypeptide chains containing four porphyrin heme groups that allow the enzyme to react with the hydrogen peroxide. The optimum pH of human catalase is approximately 7 and the optimum temperature is at 37 degree. Both the pH optimum and temperature for other catalases varies depending on the species. Catalase can be inhibited by a flux of  $O_2^-$  generated in situ by the aerobic xanthine oxidase reaction. This inhibition of catalase by  $O_2^-$  provides the basis for a synergism between superoxide dismutase and catalase. Such synergisms have been observed in vitro and may be significant in vivo. Catalase is used in the food industry for removing hydrogen peroxide from milk prior to cheese production. Another use is in food wrappers where it prevents food from oxidizing. Catalase is also used in the textile industry; removing hydrogen peroxide from fabrics to make sure the material is peroxide-free.