Catalase (CAT) Activity Assay Kit

Description

Product name	Micro Catalase (CAT) Activity Assay Kit
Applications notes	Micro Catalase Activity Assay Kit provides a simple and easy colorimetric assay for the study of catalase activity in a variety of biological samples such as cell and tissue lysates or biological fluids. This assay kit utilizes the peroxidatic function of catalase for measuring catalase activity, based on the reaction of catalase with methanol, with the presence of an optimal concentration of H2O2. The formaldehyde produced can be measured colorimetrically at OD 540 nm. Therefore, the catalase activity present in the sample is proportional to the signal obtained.

Product Properties

Kit components	â€¢ Assay Buffer â€¢ Sample Diluent â€¢ Formaldehyde standard (4.25 M) â€¢ Catalase (control) â€¢ Potassium Hydroxide â€¢ Hydrogen Peroxide â€¢ Chromogen â€¢ Potassium Periodate
Features & Benefits	â€¢ Determination of catalase activity in serum, plasma, tissue/cell lysates and other biological fluids. â€¢ Determining catalase activity directly by utilizing the peroxidatic function of catalase, which can not be interfered by other peroxidases. â€¢ A broad range linearity: 2-75 ÂµM. â€¢ Measure catalase activity down to 2 U/ml
Usage notes	â€¢ If not assayed immediately, samples can be stored at -80Â°C. â€¢ Overheating can inactivate catalse. The enzyme should be kept cold during sample preparation and assaying. â€¢ In general, catalase is very unstable at high dilution. It is recommned to store samples concentrated and assay within 30 minutes afrer dilution.
Storage instructions	Storage at -20Â°C and Keep from light immediately upon receipt. Kit has a storage time of 6 months from receipt. Refer to list of materials supplied for storage conditions of individual components.
Shipping	Gel pack with blue ice.
Precautions	The product listed herein is for research use only and is not intended for use in human or clinical diagnosis. Suggested applications of our products are not recommendations to use our products in violation of any patent or as a license. We cannot be responsible for patent infringements or other violations that may occur with the use of this product.

Additional Information

Background

Catalase (EC 1.11.1.6), is a common antioxidant enzyme that catalyzes thedecomposition of hydrogen peroxide (H2O2) to water and oxygen, ubiquitously present inaerobic cells containing a cytochrome system. Hydrogen peroxide is highly deleterious tothe cell and its accumulation will cause oxidation of cellular targets such as DNA,proteins, and lipids, thus leading to mutagenesis and cell death. Removal of the hydrogenperoxide (H2O2) from cells by using catalase provides protection against oxidativedamage to the cell. The role of catalase in oxidative stress related diseases has been widely studied. Catalase also demonstrates peroxidatic activity, in which low molecularweight alcohols can serve as electron donors. Aliphatic alcohols are specific substratesfor catalase, however, other enzymes with peroxidatic activity do not utilize thesesubstrates.

Image & description

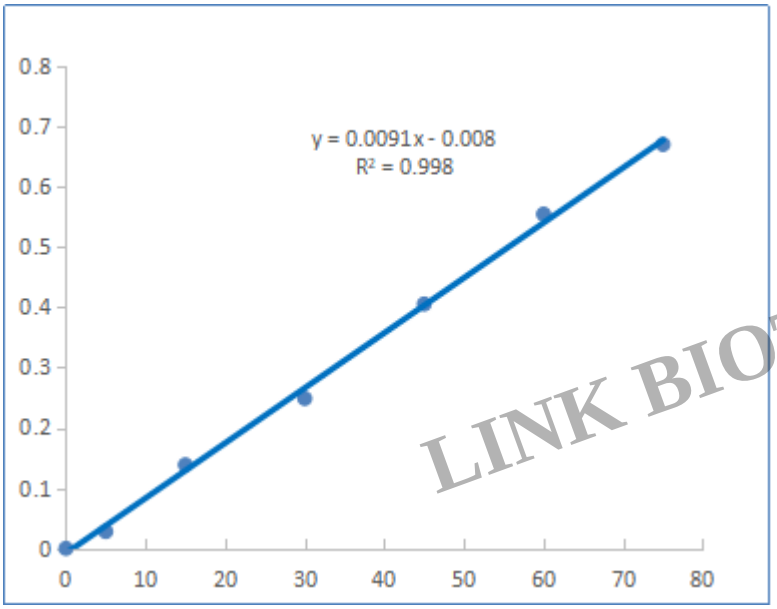

Fig. Formaldehyde standard curve. The y-axis is absorbance of standards and the x-axis is final formaldehyde concentration (uM).

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2024/07/03