

Product datasheet

Catalase Activity Assay Kit (Immunocapture) ab118184

9 References 5 Images

Overview

Product name Catalase Activity Assay Kit (Immunocapture)

Precision

Intra-assay

Sample	n	Mean	SD	CV%
1	8			7.1%

Inter-assay

Sample	n	Mean	SD	CV%
1	4			9.9%

Sample type Cell culture extracts, Tissue Extracts

Assay type Enzyme activity

Range 1 µg/ml - 1000 µg/ml

Assay time 6h 00m

Species reactivity **Reacts with:** Mouse, Rat, Human

Product overview Catalase Activity Assay Kit ab118184 is used to determine the relative specific activity (activity and quantity) of catalase in a sample. Capture antibodies specific for catalase are pre-coated in the microplate wells. The native enzyme is immunocaptured within the wells of the microplate; this removes all other enzymes.

The catalase assay buffer contains hydrogen peroxide which reacts with a substrate to make a luminescent product. Catalase functions rapidly to remove hydrogen peroxide from the solution and reduce the production of light. Therefore the light produced in each well is inversely proportional to the amount of catalase activity.

After catalase activity measurement the quantity of catalase is measured by adding an anti-catalase detector antibody to each well. After washing away unbound detector antibody, HRP-conjugated label specific for the detector antibody is pipetted to the wells. The wells are again washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of catalase bound. The developing blue color is measured at 600 nm. Optionally the reaction can be stopped by adding hydrochloric acid which changes the color from blue to yellow and the intensity can be measured at 450 nm.

Catalase assay protocol summary:

- add samples to wells
- incubate for 3 hrs at room temp
- wash with wash buffer
- add activity solution and hydrogen peroxide solution
- analyze with luminescence microplate reader for 30 min
- wash
- add detector antibody and incubate for 1 hr at room temp
- wash
- add HRP label and incubate for 1 hr at room temp
- wash
- add HRP development solution and analyze with microplate reader for 15 min in kinetic mode

Notes Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances. It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform Microplate reader

Properties

Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Blocking Solution	1 x 10ml
10X Detector Antibody	1 x 1.5ml
10X HRP Label	1 x 1.5ml
200X Luiminescent reagent	1 x 0.2ml
20X Buffer	1 x 20ml
55X Coupler	1 x 0.5ml
60X Hydrogen Peroxide	1 x 0.5ml
96-Well Microplate	1 unit
Base Buffer	1 x 24ml
Extraction Buffer (ab260490)	1 x 15ml
HRP Development Solution	1 x 12ml

Function Occurs in almost all aerobically respiring organisms and serves to protect cells from the toxic

effects of hydrogen peroxide. Promotes growth of cells including T-cells, B-cells, myeloid leukemia cells, melanoma cells, mastocytoma cells and normal and transformed fibroblast cells.

Involvement in disease

Defects in CAT are the cause of acatalasia (ACATLAS) [MIM:115500]; also known as acatalasemia. This disease is characterized by absence of catalase activity in red cells and is often associated with ulcerating oral lesions.

Sequence similarities

Belongs to the catalase family.

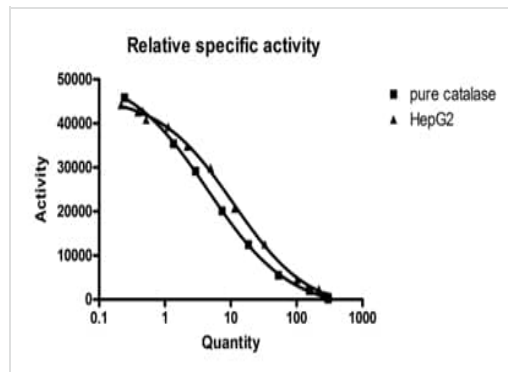
Post-translational modifications

The N-terminus is blocked.

Cellular localization

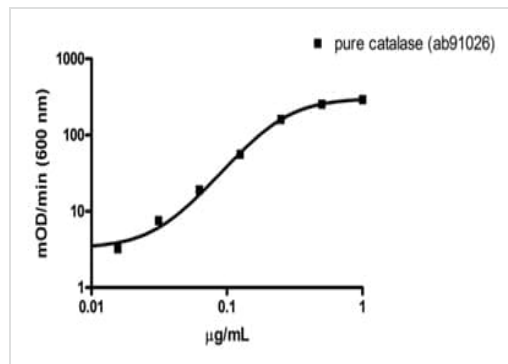
Peroxisome.

Images



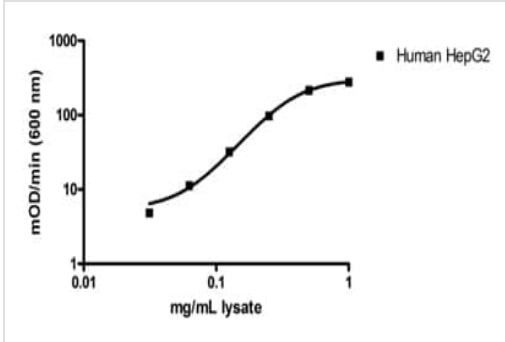
Example relative specific activity – comparing the activity and quantity of purified erythrocyte catalase ([ab91026](#)) and catalase from human hepg2 lysate. The HepG2 sample is determined to have a higher specific activity rate.

Functional Studies - Catalase Activity Assay Kit
(ab118184)



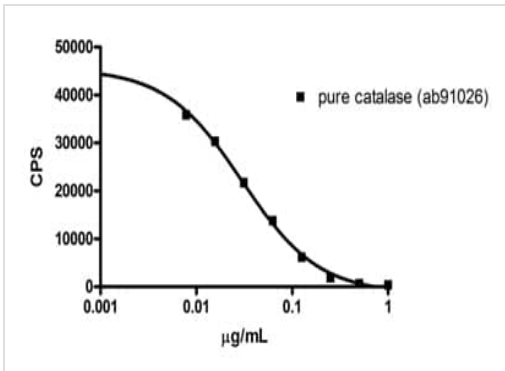
Example standard curve for the purified human catalase sample [ab91026](#).

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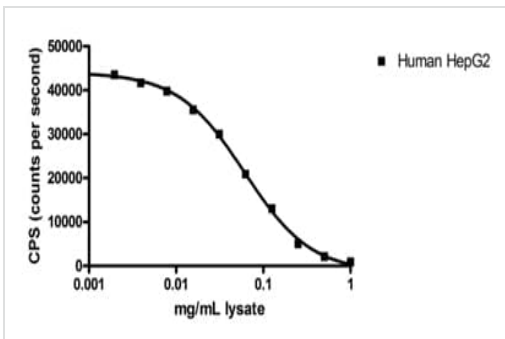
Example sample curves demonstrating the working range of the assay for a human and cultured cell line lysate (HepG2).

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Example standard curve for the purified human catalase sample [ab91026](#).

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Example sample curves demonstrating the working range of the assay for a human and cultured cell line lysate (HepG2).

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