Product overview

Catalase Activity Assay Kit (Colorimetric/Fluorometric) (ab83464) is a highly sensitive, simple and direct assay for measuring catalase activity in a variety of biological samples such as cell and tissue lysates or biological fluids.

In the catalase activity assay protocol, the catalase present in the sample reacts with hydrogen peroxide (H$_2$O$_2$) to produce water and oxygen. The unconverted H$_2$O$_2$ reacts with probe to produce a product that can be measured colorimetrically at OD 570 nm or fluorometrically at Ex/Em = 535/587 nm. Therefore, the catalase activity present in the sample is reversely proportional to the signal obtained. The kit can detect as little as 1 µU of catalase activity.

Catalase activity assay protocol summary:
- add samples and standards to wells
- add stop solution into sample control wells and incubate at 25°C for 5 min
- add H2O2 solution into wells and incubate for 30 min at 25°C
- add stop solution
- add developer mix and incubate for 10 min at 25°C
- analyze with microplate reader

Platform

Microplate reader

Properties

Storage instructions

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalase Assay Buffer</td>
<td>NM</td>
<td>1 x 25ml</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalase Positive Control</td>
<td>Blue</td>
<td>1 x 2µl</td>
</tr>
<tr>
<td>HRP (Lyophilised)</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>Yellow</td>
<td>1 x 25µl</td>
</tr>
<tr>
<td>OxiRed Probe</td>
<td>Red</td>
<td>1 x 200µl</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>White</td>
<td>1 x 1ml</td>
</tr>
</tbody>
</table>

Sample tests using ab83464.

H$_2$O$_2$ standard curve using ab83464.

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