Superoxide Dismutase Activity Assay Kit (Colorimetric) ab65354

Overview

Product name
Superoxide Dismutase Activity Assay Kit (Colorimetric)

Detection method
Colorimetric

Sample type
Urine, Serum, Plasma, Other biological fluids, Tissue Extracts, Cell Lysate, Cell culture media

Assay type
Enzyme activity

Assay time
0h 30m

Species reactivity
Reacts with: Mammals, Other species

Product overview
Superoxide Dismutase Activity Assay Kit (Colorimetric) ab65354 is a simple and rapid assay for superoxide dismutase (SOD) activity.

In the SOD assay protocol:
- superoxide anions are produced by the action of xanthine oxidase
- SOD catalyzes the dismutation of the superoxide anion into hydrogen peroxide and O_2
- superoxide anions act on WST-1 to produce a water-soluble formazan dye which can be detected by the increase in absorbance at 450 nm

The greater the activity of SOD in the sample, the less formazan dye is produced.

Superoxide dismutase assay protocol summary:
- add samples to wells
- add WST-1 working solution and enzyme working solution and incubate for 20 min at 37°C
- analyze with microplate reader

Notes
This product is manufactured by BioVision, an Abcam company and was previously called K335 Superoxide Dismutase (SOD) Activity Colorimetric Assay Kit. K335-100 is the same size as the 100 test size of ab65354.

Superoxide dismutase (SOD) is one of the most important antioxidative enzymes. It catalyzes the dismutation of the superoxide anion into hydrogen peroxide and molecular oxygen.

Related products
Review the oxidative stress marker and assay guide to learn about more assays for oxidative stress.

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

<table>
<thead>
<tr>
<th>Components</th>
<th>100 tests</th>
<th>2000 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOD Assay Buffer</td>
<td>1 x 20ml</td>
<td>20 x 20ml</td>
</tr>
<tr>
<td>SOD Dilution Buffer</td>
<td>1 x 10ml</td>
<td>20 x 10ml</td>
</tr>
<tr>
<td>SOD Enzyme Solution</td>
<td>1 x 20µl</td>
<td>20 x 20µl</td>
</tr>
<tr>
<td>WST Reagent II</td>
<td>1 x 1ml</td>
<td>20 x 1ml</td>
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</tbody>
</table>

Relevance
Superoxide dismutase (SOD) is an antioxidant enzyme involved in the defense system against reactive oxygen species (ROS). SOD catalyzes the dismutation reaction of superoxide radical anion (O_2^-) to hydrogen peroxide, which is then catalyzed to innocuous O_2 and H_2O by glutathione peroxidase and catalase. Several classes of SOD have been identified. These include intracellular copper, zinc SOD (Cu, Zn SOD/SOD1), mitochondrial manganese SOD (Mn SOD/SOD2) and extracellular Cu, Zn SOD (EC SOD/SOD3).

Cellular localization
Cytoplasmic

Properties

Images
Park J et al investigates the recovery in erectile function after administration of chronic statin alone in DM (streptozotocin (STZ)-induced diabetes mellitus) rats. SOD activity was determined using Superoxide Dismutase activity assay kit (ab65354).

* Indicates statistical significance in comparison with DM group (P < 0.05).

# Indicates statistical significance in comparison with the statin group (P<0.05).

Superoxide dismutase measured in biofluids at various dilutions.

Superoxidase dismutase (ab90040) measured showing inhibition rate (%) per concentration (microgram per mL).
Principle of Superoxide Dismutase Assay.

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