Product name: Superoxide Dismutase Activity Assay Kit (Colorimetric) ab65354

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: Other species, Mammals

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: 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.

Platform: Microplate reader

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>SOD Assay Buffer</td>
<td>WM</td>
<td>1 x 20ml</td>
</tr>
</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

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

**Components**

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOD Dilution Buffer</td>
<td>NM</td>
<td>1 x 10ml</td>
</tr>
<tr>
<td>SOD Enzyme Solution</td>
<td>Green</td>
<td>1 x 20µl</td>
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<tr>
<td>WST Solution</td>
<td>Red</td>
<td>1 x 1ml</td>
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</tbody>
</table>
Superoxidase dismutase (ab90040) measured showing inhibition rate (%) per concentration (microgram per mL).

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