SIRT5 Deacetylase Fluorometric Assay Kit ab210074

Overview

Product name: SIRT5 Deacetylase Fluorometric Assay Kit
Detection method: Fluorescent
Product overview: Abcam’s SIRT5 Activity Assay Kit (Fluorometric) (ab210074) detects the deacetylase activity of recombinant or purified SIRT5. The kit is designed for the rapid and sensitive evaluation of SIRT5 inhibitors or activators using recombinant or purified SIRT5.

The Abcam SIRT5 Deacetylase Fluorometric Assay Kit is a simple and homogeneous assay system designed to measure the deacetylase activity of SIRT5. This kit offers a unique method for assaying protein deacetylases that is a highly sensitive and convenient alternative to conventional radiolabelling or HPLC methods. The kit uses an acetylated peptide substrate that has a fluorophore and a quencher at its amino and carboxyl terminals. Once the substrate is deacetylated by SIRT5, it can be cleaved by the peptidase, releasing the fluorophore from the quencher. The subsequent increase in fluorescence intensity of the fluorophore is in direct proportion to the deacetylase activity of SIRT5.

This kit comes with Recombinant SIRT5, the acetylated peptide substrate, NAD as a co-substrate and other reagents necessary for the fluorescent deacetylase assay, all of which are ready-to-use.

Notes

SIRT5, a distant homolog of the yeast histone deacetylase Sir2, is localized in the mitochondrial matrix. SIRT5 exhibits deacetylase activity. It interacts with carbamoyl phosphate synthetase 1 (CPS1) which catalyzes the initial step of the urea cycle for ammonia detoxification and disposal. SIRT5 deacetylates CPS1 and up-regulates its activity. SIRT5 has also been shown to function as an efficient protein lysine desuccinylase and demalonylase in vitro. Knockout mouse studies have shown that many mammalian proteins have succinyl or malonyl lysine modifications, and that SIRT5 functions as a global regulator of lysine succinylation in mitochondria. SIRT5 may play a role in the inhibition of ketogenesis.

Platform: Microplate reader

Properties

Storage instructions: Store at -80°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developer</td>
<td>1 x 500μl</td>
</tr>
</tbody>
</table>
Time course of substrate deacetylation by Recombinant SIRT5

### Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoro-Deacetylated Peptide (0.1 mM)</td>
<td>1 x 100µl</td>
</tr>
<tr>
<td>Fluoro-Substrate Peptide (0.1 mM)</td>
<td>1 x 500µl</td>
</tr>
<tr>
<td>NAD (8 mM)</td>
<td>1 x 500µl</td>
</tr>
<tr>
<td>Recombinant SIRT5</td>
<td>1 x 500µl</td>
</tr>
<tr>
<td>SIRT5 Assay Buffer</td>
<td>2 x 1ml</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>2 x 1ml</td>
</tr>
</tbody>
</table>

### Images

#### Time course of Deacetylation by Recombinant SIRT5

- **Graph**
  - Title: Time course of substrate deacetylation by Recombinant SIRT5
  - X-axis: Reaction Time (Min.)
  - Y-axis: Fluorescent Intensity (Counting Rate in ASY)

#### NAD Dependency of Recombinant SIRT5 Activity

- **Graph**
  - Title: NAD dependency of Recombinant SIRT5 activity
  - X-axis: Reaction Time (Min.)
  - Y-axis: Fluorescent Intensity (Counting Rate in ASY)
Effect of compounds on Recombinant SIRT5 activity

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