Acetyltransferase Activity Assay Kit (Fluorometric) (ab204536)

Overview

Product name: Acetyltransferase Activity Assay Kit (Fluorometric)
Detection method: Fluorescent
Sample type: Purified protein, Inhibitor compounds

Product overview: Acetyltransferase Activity Assay Kit (Fluorometric) (ab204536) is a homogeneous mix-and-read fluorescent assay for the determination of any acetyl-CoA dependent acetyltransferase activity. It is suitable for end-point or kinetic read options, which is ideal for determining mechanism of action, kinetics, and screening candidate compounds. The assay is amendable to HTS and miniaturization.

This assay is a complete kit for the screening of candidate compounds that can alter normal acetyltransferase activity. For use with purified in vitro samples.

Notes: Acetylation is an important covalent molecular modification. Originally identified as the method by which certain bacteria were able to deactivate anti-microbial compounds, acetylation is now also known as an important partitioning and signaling modification.

Acetyltransferases are enzymes that covalently transfer an acetyl group from a donor molecule (Acetyl CoA) to an acceptor. Acetyl CoA serves as a universal donor while the acceptor varies with the acetyltransferase. Acceptors include histones, kinases, transcription factors, receptors, neurotransmitter precursors like choline and serotonin, and anti-microbial agents like chloramphenicol and fluoroquinones. Acetylation can signal an increase or decrease in activity based on the context of the message. Frequently located at critical junctions in metabolic pathways, Acetyltransferases and their regulation have become attractive therapeutic targets to treat everything from insomnia to cancer.

Platform: Microplate reader

Storage instructions: Please refer to protocols.

Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetyltransferase Positive Control</td>
<td>1 x 200µl</td>
</tr>
<tr>
<td>1 x 96 tests</td>
<td></td>
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</tbody>
</table>
Chloramphenicol acetyltransferase (CAT) was titrated in the assay using 100μM of the Substrate chloramphenicol. Serial dilutions of the enzyme were prepared in Transferase Assay Buffer. Mean relative fluorescence was plotted against CAT concentration to generate the following graph.

This is for illustration purposes only.

The investigator must titrate their enzyme / substrate system in the assay. Based on this titration data, the acetyltransferase concentration of 100nM produces a maximum signal within the detection range of the plate reader, with a signal to noise ratio sufficient for easy detection of altered enzyme activity.

100nM CAT was tested with 100μM Chloramphenicol substrate in the kinetic assay format. Mean relative fluorescence was plotted against the stop time interval to generate this graph. Obtained using Abcam's Acetyltransferase Activity Assay Kit (Fluorometric) (ab204536).

<table>
<thead>
<tr>
<th>Components</th>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetyltransferase Reaction Buffer Concentrate</td>
<td>1 x 100μl</td>
</tr>
<tr>
<td>Black Microtiter Plate</td>
<td>1 unit</td>
</tr>
<tr>
<td>Foil Plate Sealer</td>
<td>3 units</td>
</tr>
<tr>
<td>Transferase Assay Buffer Concentrate</td>
<td>1 x 15ml</td>
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<tr>
<td>Transferase Detection Solution Concentrate</td>
<td>1 x 150μl</td>
</tr>
</tbody>
</table>

**Sequence similarities**

Belongs to the thiolase family.

**Cellular localization**

Cytoplasm.

**Example Kinetic Assay Results.**

Chloramphenicol acetyltransferase (CAT) titration in acetyltransferase assay obtained using Abcam's Acetyltransferase Activity Assay Kit (Fluorometric) (ab204536).
Typical inhibition curve obtained using Abcam’s Acetyltransferase Activity Assay Kit (Fluorometric) (ab204536).

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