Calcium Flux Assay Kit (Flow cytometry) ab233472

Overview

Product name: Calcium Flux Assay Kit (Flow cytometry)
Detection method: Fluorescent
Sample type: Adherent cells, Suspension cells
Assay type: Cell-based (quantitative)

Product overview:

Calcium Flux Assay Kit (Flow cytometry) (ab233472) is a fluorescence-based assay for detecting intracellular calcium mobilization using a flow cytometer. It can be used for kinetic reading or for endpoint reading.

After loading the 520 AM dye into the cells of interest, simply wash the cells and add the calcium flux agonist then read the sample via a flow cytometer using kinetic reading mode or endpoint reading mode at Ex/Em = 490/525 nm.

Platform: Flow cytometer

Properties

Storage instructions: Store at -20°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 mM Probenecid</td>
<td>1 x 3ml</td>
</tr>
<tr>
<td>Assay Buffer</td>
<td>1 x 50ml</td>
</tr>
<tr>
<td>Calbryte 520 AM</td>
<td>1 vial</td>
</tr>
<tr>
<td>HHBS</td>
<td>1 x 100ml</td>
</tr>
</tbody>
</table>

Relevance:

Calcium is essential for all living organisms, where Ca^{2+} sequestration and release into and out of the cytoplasm functions as a signal for many cellular processes. 99% of calcium is found in bones and teeth, with the remaining 1% found in the blood and soft tissue. Serum calcium levels are tightly controlled (8.4-11.4 mg/dL) and any variation outside this range can have serious effects. Calcium plays a role in mediating the constriction and relaxation of blood vessels, nerve impulse transmission, muscle contraction, and hormone secretion. Calcium ion channels control the migration of calcium ions across cell membranes, permitting the activation and inhibition of a
wide variety of enzymes. Causes of low calcium levels include chronic kidney failure, vitamin D deficiency, and low blood magnesium levels that can occur in severe alcoholism.

Example Data

The ATP dose dependent (10 µM, 1 µM or 0 µM ATP) intracellular calcium release was measured by Calcium Flux Assay Kit (Flow cytometry) (ab233472) in CHO-K1 cells. Cells were incubated with 520 AM dye for 30 minutes at 37 °C before ATP was added into the cells. The baseline was acquired and the rest of the cells were analyzed after the addition of ATP. The response was measured over time. The analysis was done on NovoCyte™ 3000 Flow Cytometer.

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