Adenosine Assay Kit (Fluorometric) ab211094

Overview

Product name: Adenosine Assay Kit (Fluorometric)
Detection method: Fluorescent
Sample type: Urine, Plasma
Assay type: Quantitative
Assay time: 0h 15m
Species reactivity: Reacts with: Mammals, Other species

Product overview

Adenosine Assay Kit (Fluorometric) (ab211094) provides a convenient method to detect adenosine in plasma and urine. In this assay, adenosine is measured using adenosine deaminase followed by a multi-step enzymatic approach resulting in the generation of an intermediate that reacts with the adenosine probe, leading to the formation of a fluorescent product. The fluorescent product can be detected at Ex/Em = 535/587 nm, and its intensity is proportional to the amount of adenosine in the sample.

The detection range of this product is 2-80 pmol of adenosine in plasma or urine.

Adenosine assay protocol summary:
- add samples and standards to wells
- add reaction mix and incubate for 15 min
- analyze with fluorescence microplate reader

Notes

Adenosine, a purine nucleoside, is present throughout the body. It plays an important role in energy transfer via the formation of ATP, ADP and AMP and in signal transduction via the formation of cAMP. Adenosine mediates its effects directly via adenosine receptors A1, A2A, A2B and A3. It regulates myocardial oxygen consumption and coronary blood flow, exerts anti-inflammatory effects throughout the body and also regulates the Renin-Angiotensin system. It also plays a role in tissue damage and repair, and cell death. Plasma adenosine levels are increased in patients with ischemic and non-ischemic heart failure.

Platform

Microplate reader

Properties

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

<table>
<thead>
<tr>
<th></th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenosine Assay Buffer</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>Adenosine Converter (10 U)</td>
<td>1 vial</td>
</tr>
<tr>
<td>Adenosine Detector (10 U)</td>
<td>1 vial</td>
</tr>
<tr>
<td>Adenosine Developer (1 U)</td>
<td>1 vial</td>
</tr>
<tr>
<td>Adenosine Probe (in DMSO)</td>
<td>1 x 200µl</td>
</tr>
<tr>
<td>Adenosine Standard (10 mM)</td>
<td>1 x 100µl</td>
</tr>
<tr>
<td>Urine Clarifier (1 U)</td>
<td>1 vial</td>
</tr>
</tbody>
</table>

Images

Typical Adenosine standard calibration curve.

Measurement of Adenosine in pooled human plasma (20 µL) and human urine (4 µL of pretreated urine, 2X diluted during the pretreatment method).
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Adenosine amount in human plasma and human urine, calculated from data shown in previous figure.

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