Overview

Product name
Cyclooxygenase (COX) Activity Assay Kit (Luminometric)

Precision

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>COX</td>
<td>16</td>
<td>30U/ml</td>
<td></td>
<td>7%</td>
</tr>
<tr>
<td>COX</td>
<td>16</td>
<td>7.5U/ml</td>
<td></td>
<td>3.1%</td>
</tr>
</tbody>
</table>

Assay type
Enzyme activity

Sensitivity
0.147 U/ml

Range
7.5 U/ml - 60 U/ml

Product overview

The Cyclooxygenase (COX) Activity Assay Kit (Luminometric) (ab139432) is a non-radioactive COX activity assay. This kit allows user to easily evaluate COX I and COX II inhibitors in a convenient 96-well plate based assay with < 7% intra-assay variation.

COX Activity Assay Kit (Luminometric) uses a specific chemiluminescent substrate to detect the peroxidative activity of COX enzymes. After inhibition by NSAIDs, the direct residual activity of COX is measured by addition of a proprietary luminescent substrate and arachidonic acid. Light emission starts immediately and is directly proportional to the COX activity in the sample. The chemiluminescent signal is measured over 5 seconds.

Notes

COX (cyclooxygenase, also known as Prostaglandin G/H synthase) is a membrane-bound enzyme responsible for the oxidation of arachidonic acid to Prostaglandin G_2 (PGG_2) and the subsequent reduction of PGG_2 to PGH_2. These reactions are the first steps in the formation of a variety of prostanoids.

COX has been shown to be expressed in at least two different isoforms: a constitutively expressed form, **COX1**, and an inducible form, **COX2**. COX1 is thought to regulate a number of "housekeeping" functions such as vascular hemostasis and renal blood flow. Inflammation mediators such as growth factors, cytokines and endotoxin induce COX2 expression in a number of cellular systems.
Storage instructions

Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>COX Substrate</td>
<td>1 x 10ml</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>1 x 2ml</td>
</tr>
<tr>
<td>Meloxicam</td>
<td>1 x 2ml</td>
</tr>
<tr>
<td>Plate Sealer</td>
<td>2 units</td>
</tr>
<tr>
<td>White 96 well microtiter plate</td>
<td>1 unit</td>
</tr>
</tbody>
</table>

COX 2 Standard Curve

Typical standard curve for COX 2 activity (in RLU) following the procedure described in the protocol for ab139432.

Images

COX 1 Standard Curve

Typical standard curve for COX 1 activity (in RLU) following the procedure described in the protocol for ab139432.

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