Aspartate Aminotransferase Activity Assay Kit ab105135

Overview

Product name: Aspartate Aminotransferase Activity Assay Kit
Detection method: Colorimetric
Sample type: Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts
Assay type: Enzyme activity
Sensitivity: 10 mU/well
Assay time: 1h 00m
Product overview: Aspartate Aminotransferase Activity Assay Kit (AST assay kit) ab105135 provides a rapid, simple, sensitive and reliable assay for AST activity.

In the AST assay protocol, an amino group is transferred from aspartate to alpha-ketoglutarate. The products of this reversible transamination reaction are oxaloacetate and glutamate. The glutamate is detected in a reaction that converts a nearly colorless probe to color (λmax = 450 nm).

The AST assay has a detection limit of 10 mU per well.

AST assay protocol summary:
- add samples and standards to wells
- add reaction mix
- incubate at 37°C and analyze with microplate reader after 10 mins and then again after 60 mins

Notes
Aspartate aminotransferase (AST), also known as Aspartate transaminase and Glutamate-oxaloacetate transaminase (GOT), is a transaminase (EC 2.6.1.1) similar to the more liver specific alanine transaminase (ALT). Although commonly included clinically as part of a diagnostic liver function test, AST has a broader clinical utility since it may also be elevated in diseases affecting other organs, such as the heart or muscles in myocardial infarction, also in acute pancreatitis, acute hemolytic anemia, severe burns, acute renal disease, musculoskeletal diseases and trauma. It catalyzes the reaction: Aspartate + alpha-Ketoglutarate = Oxaloacetate + Glutamate Diagnostically, it is almost always measured in units/liter (U/L).

Platform
Microplate reader
Storage instructions
Store at -20°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assay Buffer</td>
<td>WM</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>Developer</td>
<td>Red</td>
<td>1 vial</td>
</tr>
<tr>
<td>Enzyme Mix</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>Glutamate Standard (0.1M)</td>
<td>Yellow</td>
<td>1 x 0.1ml</td>
</tr>
<tr>
<td>Positive Control</td>
<td>Blue</td>
<td>1 vial</td>
</tr>
<tr>
<td>Substrate</td>
<td>Orange</td>
<td>1 vial</td>
</tr>
</tbody>
</table>

Function
Plays a key role in amino acid metabolism.

Sequence similarities
Belongs to the class-I pyridoxal-phosphate-dependent aminotransferase family.

Cellular localization
Cytoplasm.

Properties

AST activity measured in mouse tissue lysates showing activity (mU) per mg of extracted protein (T1 = 2 min; T2 = 60 min).

Functional Studies - Aspartate Aminotransferase Activity Assay Kit (ab105135)
AST activity measured in human biological fluids showing activity (mU) per mL of tested sample, (T1 = 2 min; T2 = 60 min) with background signals subtracted.

Serum aspartate transaminase (AST) levels were measured using ab105135 and alanine transaminase (ALT) levels were measured using ab105134. Both levels were measured at various time periods post Con A injection. Mean values ± SD are shown (n = 4). □ P < 0.05 and □□ P < 0.01.

AST activity measured in cell lysates (T1 = 2 min; T2 = 60 min; duplicates (+/- SD), background signal subtracted).
AST activity measured in cell culture medium and control medium, background signal subtracted. T1 = 2 min; T2 = 60 min.

Standard curve (60 minutes incubation): mean of duplicates (+/- SD) with background reads subtracted.

Example of Standard Curve and Positive control detection using ab105135.

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