**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.

Serum aspartate transaminase (AST) and alanine transaminase (ALT) 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 mouse tissue lysates showing activity (mU) per mg of extracted protein (T1 = 2 min; T2 = 60 min).
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.

AST activity measured in cell culture medium and control medium, background signal subtracted, T1 = 2 min; T2 = 60 min.

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