Product name: Arginase Activity Assay Kit (Colorimetric) ab180877

Detection method: Colorimetric

Sample type: Tissue, Adherent cells, Suspension cells

Assay type: Enzyme activity (quantitative)

Sensitivity: < 0.2 U/ml

Assay time: 1h 00m

Species reactivity: Reacts with: Mammals, Other species

Product overview:
Arginase Activity Assay Kit (Colorimetric) ab180877 is a simple, sensitive and rapid assay to quantify arginase activity.

In the arginase assay protocol, arginase reacts with arginine and undergoes a series of reactions that form an intermediate that react stoichiometrically with the probe to generate a colored product that can be detected at OD = 570 nm.

The kit can detect less than 0.2 U/L Arginase activity in 96-well assay format.

Arginase assay protocol summary:
- add samples and standards to wells
- add arginase substrate mix to sample wells only
- incubate for 20 min
- add arginase assay reaction mix to all wells
- analyze with microplate reader in kinetic mode for 10-30 min

Notes:
Arginase (EC 3.5.3.1) is the final enzyme of the Urea Cycle. It converts L-arginine into urea and L-ornithine and plays an important role in removing ammonium ion from the body.

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It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

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>Arginase Assay Buffer</td>
<td>WM</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>Arginase Converter Enzyme (Lyophilized)</td>
<td>Blue</td>
<td>1 vial</td>
</tr>
<tr>
<td>Arginase Developer (Lyophilized)</td>
<td>Orange</td>
<td>1 vial</td>
</tr>
<tr>
<td>Arginase Enzyme Mix (Lyophilized)</td>
<td>Green</td>
<td>1 vial</td>
</tr>
<tr>
<td>Arginase Positive Control (Lyophilized)</td>
<td>Purple</td>
<td>1 vial</td>
</tr>
<tr>
<td>Arginase Substrate (Lyophilized)</td>
<td>White</td>
<td>1 vial</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>Yellow</td>
<td>1 x 100µl</td>
</tr>
<tr>
<td>OxiRed Probe in DMSO</td>
<td>Red</td>
<td>1 x 200µl</td>
</tr>
</tbody>
</table>

Pathway
Nitrogen metabolism; urea cycle; L-ornithine and urea from L-arginine: step 1/1.

Involvement in disease
Defects in ARG1 are the cause of argininemia (ARGIN) [MIM:207800]; also known as hyperargininemia. Argininemia is a rare autosomal recessive disorder of the urea cycle. Arginine is elevated in the blood and cerebrospinal fluid, and periodic hyperammonemia occurs. Clinical manifestations include developmental delay, seizures, mental retardation, hypotonia, ataxia, progressive spastic quadriplegia.

Sequence similarities
Belongs to the arginase family.

Cellular localization
Cytoplasm.

Images
H₂O₂ Standard Curve. Assay performed following kit protocol.
Arginase activity in rat liver lysate (3 µg) & Positive Control (2 µL).
Assays were performed following the kit protocol.

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