Amylase Assay Kit (Colorimetric) ab102523

Overview

Product name: Amylase Assay Kit (Colorimetric)
Detection method: Colorimetric
Sample type: Cell culture supernatant, Urine, Serum, Tissue Extracts, Cell culture media
Assay type: Enzyme activity (quantitative)
Sensitivity: > 0.2 mU/well
Assay time: 0h 40m
Species reactivity: Reacts with: Other species, Mammals

Product overview:
Amylase Assay Kit (Colorimetric) ab102523 detects activity of α-amylase through a two-step reaction.

In the amylase assay protocol, alpha-Amylase will cleave the substrate ethylidene-pNP-G7 to produce smaller fragments that are eventually modified by alpha-glucosidase. This causes the release of a chromophore that can then be measured at OD = 405 nm.

The assay can detect α-amylase content as low as 0.2 mU.

Amylase assay protocol summary:
- add samples and standards to wells
- add reaction mix
- analyze with a microplate reader every 2-3 min for 30-60 min

Notes
Amylases are enzymes that break starch down to sugar molecules. α-amylase is the major form of amylase found in humans and other mammals as well as an enzyme present in seeds, or in fungi (baker’s yeast for instance). α-amylase is a calcium metalloenzyme, completely unable to function in the absence of calcium. In human physiology, both the salivary and pancreatic amylases are major digestive enzymes.

Platform: Microplate reader

Properties

Storage instructions: Store at -20°C. Please refer to protocols.
Amylases are enzymes that break starch down to sugar molecules. Alpha-amylase is the major form of amylase found in humans and other mammals as well as an enzyme present in seeds, or in fungi (baker’s yeast for instance). Alpha-amylase is a calcium metalloenzyme, completely unable to function in the absence of calcium. In human physiology, both the salivary and pancreatic amylases are major digestive enzymes. Increased enzyme levels in humans are associated with salivary trauma; mumps due to inflammation of the salivary glands, pancreatitis and renal failure. A simple, direct and automation-ready procedure for measuring alpha-amylase activity is, therefore, very desirable.

### Functional Studies - Amylase Assay Kit (ab102523)

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amylase Assay Buffer</td>
<td>NM</td>
<td>1 x 55ml</td>
</tr>
<tr>
<td>Amylase Positive Control</td>
<td>Red</td>
<td>1 vial</td>
</tr>
<tr>
<td>Amylase Substrate Mix</td>
<td>NM</td>
<td>1 x 5ml</td>
</tr>
<tr>
<td>Nitrophenol standard</td>
<td>Yellow</td>
<td>1 x 150µl</td>
</tr>
</tbody>
</table>

Plasma amylase levels were measured (using ab102523) after 75 days treatment with saline or one of three drugs. ND, normal chow diet; HFD, high fat diet. p≤0.05, *; p≤0.01, **, n=3–7 mice.

There were no statistically significant changes in plasma amylase activity in mice that were administered with two of the drugs vs mice administered saline. However, administration of the third to animals on normal diet led to a 1.4-fold increase in amylase activity (p≤0.01, n=3 per group) and a 1.3-fold increase in mice on a high fat diet (p≤0.01, n=4 per group).
Standard curve: mean of duplicates (± SD) with background reads subtracted

Amylase activity measured in biological fluids showing activity (mU) per mL of tested sample. Samples were diluted 2 fold.

Amylase activity measured in tissue lysates showing activity (mU) per mg of extracted protein.

Protein concentration for samples varied from 16 mg/mL to 50 mg/mL. Samples were diluted 2 fold.
Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors