Overview

Product name: Tyrosine Assay Kit (Colorimetric)
Detection method: Colorimetric
Sample type: Urine, Serum, Plasma, Other biological fluids
Assay type: Quantitative
Sensitivity: < 50 µM
Species reactivity: Reacts with: Other species, Mammals

Product overview

Abcam’s Tyrosine Assay Kit (Colorimetric) (ab185435) is a simple, yet sensitive assay that is able to detect normal and abnormal concentrations of Tyrosine in biological fluids. The assay is based on the enzymatic oxidation of Tyrosine producing a stable signal (OD 492 nm), which is directly proportional to the amount of Tyrosine. Sample preparation is minimal and does not require strenuous or complicated procedures. The assay can detect as low as 50 µM of Tyrosine in a variety of biological samples.

Notes

Tyrosine (Tyr) is one of the four standard amino acids containing an aromatic group as a side chain. Its hydrophobicity is one of the main characteristics of this uncharged polar amino acid. In addition to being an essential amino acid Tyr is important in number of biological processes such as the synthesis of neurotransmitters, thyroid hormones, melanine, fumarate and acetoacetate. The pathology of abnormal concentrations of Tyr is well known in diseases including phenylketonuria, hypothyroidism, tyrosinemia, albinism, and alkaptonuria.

Abcam has not and does not intend to apply for the REACH Authorisation of customers’ uses of products that contain European Authorisation list (Annex XIV) substances. 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

Properties

Storage instructions

Store at -20°C. Please refer to protocols.

Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyr Assay Buffer</td>
<td>1 x 25ml</td>
</tr>
</tbody>
</table>
Tyrosine (4-hydroxyphenylalanine, or 2-amino-3(4-hydroxyphenyl)-propanoic acid) is one of the 20 amino acids that are used by cells to synthesize proteins. Tyrosine cannot be completely synthesized by animals, although it can be made by hydroxylation of phenylalanine if the latter is in abundant supply. There are three structural isomers of Tyr, namely para-Tyr (p-Tyr), meta-Tyr (m-Tyr) and ortho-Tyr (o-Tyr). Enzymatically, only the first isomer (p-Tyr) is produced from L-Phe by the Phe-hydroxylase enzyme. The other two isoforms, m-Tyr and o-Tyr can be produced as a consequence of free radical attack on Phe in states with increased oxidative stress. Tyrosine is converted to DOPA by the enzyme, tyrosine hydroxylase. It plays a key role in signal transduction, since it can be tagged with a phosphate group (phosphorylated) by protein kinases to alter the functionality and activity of certain enzymes. (In its phosphorylated state, it is sometimes referred to as phosphotyrosine.) Tyrosine is also a precursor to the thyroid hormones thyroxine and tri-iodothyronine, the pigment melanin, and the biologically-active catecholamines dopamine, norepinephrine and epinephrine.

### Images

**Tyrosine Standard Curve.**

Both 135 µL samples were deproteinized using 10 kDa Spin Column and spiked with known amount of Tyrosine (30 nmol).
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