

Tyrosinase Inhibitor Assay Kit (Colorimetric) ab204715

1 References 1 Image

Overview

Product name	Tyrosinase Inhibitor Assay Kit (Colorimetric)
Detection method	Colorimetric
Sample type	Inhibitor compounds
Assay type	Enzyme activity
Product overview	Tyrosinase Inhibitor Screening Kit (Colorimetric) (ab204715) provides a rapid, simple, sensitive, and reliable test suitable for high-throughput screening of tyrosinase inhibitors. Tyrosinase catalyzes the oxidation of tyrosine, producing a chromophore that can be detected at 510 nm. In the presence of kojic acid, a reversible inhibitor of tyrosinase, the rate of oxidation of the substrate is decreased. The assay is also adaptable to a 384-well format.

Notes	<p>This product is manufactured by BioVision, an Abcam company and was previously called K575 Tyrosinase Inhibitor Screening Kit (Colorimetric). K575-100 is the same size as the 100 test size of ab204715.</p> <p>Tyrosinase or polyphenol oxidase (EC 1.14.18.1), is an oxidoreductase that participates in the biosynthesis of melanin, a ubiquitous biological pigment found in hair, eyes, skin, etc. Inhibition of tyrosinase has been a long-time target in the skin health research, cosmetics and agricultural industries because of its role in browning reactions in skin pigmentation and during fruit harvesting and handling. Skin whitening and bleaching products utilize natural or synthetic tyrosinase inhibitors in order to lighten the skin color. Polyphenols, benzaldehyde derivatives, long-chain lipids, steroids, and natural compounds have been used as tyrosinase inhibitors.</p>
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Platform	Microplate reader
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Properties

Storage instructions	Store at -20°C. Please refer to protocols.
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Components	100 tests
Kojic Acid	1 vial
Tyrosinase	1 vial
Assay Buffer XLII	1 x 25ml

Components	100 tests
Tyrosinase Enhancer	1 x 500µl
Tyrosine	1 vial

Function

This is a copper-containing oxidase that functions in the formation of pigments such as melanins and other polyphenolic compounds. Catalyzes the rate-limiting conversions of tyrosine to DOPA, DOPA to DOPA-quinone and possibly 5,6-dihydroxyindole to indole-5,6 quinone.

Involvement in disease

Defects in TYR are the cause of albinism oculocutaneous type 1A (OCA1A) [MIM:203100]; also known as tyrosinase negative oculocutaneous albinism. An autosomal recessive disorder in which the biosynthesis of melanin pigment is absent in skin, hair, and eyes. It is characterized by complete lack of tyrosinase activity due to production of an inactive enzyme. Patients present with a life-long absence of melanin pigment after birth, and manifest increased sensitivity to ultraviolet radiation with predisposition to skin cancer. Visual anomalies include decreased acuity, nystagmus, strabismus and photophobia.

Defects in TYR are the cause of albinism oculocutaneous type 1B (OCA1B) [MIM:606952]; also known as albinism yellow mutant type. An autosomal recessive disorder in which the biosynthesis of melanin pigment is reduced in skin, hair, and eyes. It is characterized by partial lack of tyrosinase activity. Patients have white hair at birth that rapidly turns yellow or blond. They manifest the development of minimal-to-moderate amounts of cutaneous and ocular pigment. Some patients may have with white hair in the warmer areas (scalp and axilla) and progressively darker hair in the cooler areas (extremities). This variant phenotype is due to a loss of tyrosinase activity above 35-37 degrees C.

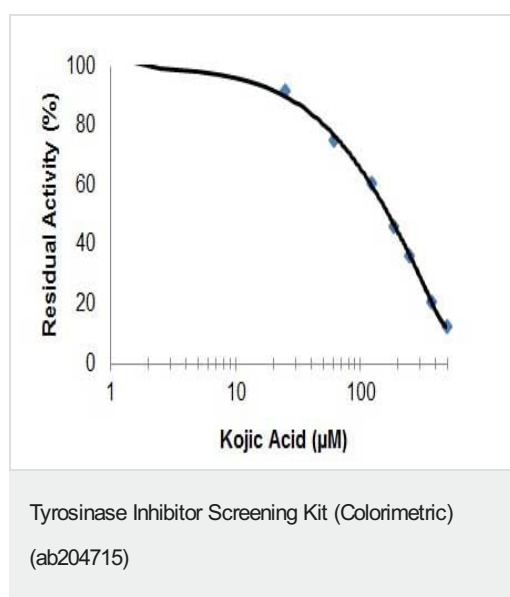
Sequence similarities

Belongs to the tyrosinase family.

Cellular localization

Melanosome membrane.

Images



Inhibition of Tyrosinase Enzymatic Activity with Kojic Acid.

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