

Tyrosinase (H-109): sc-15341

BACKGROUND

Tyrosinase (TYR), a type I membrane protein and copper-containing enzyme, is involved in the production of melanin, the primary pigment found in vertebrates. Melanin biogenesis requires the enzymatic activity of TYR, which catalyzes the critical and rate-limiting step of tyrosine hydroxylation in the biosynthesis of melanin. Defects effecting TYR activity result in various forms of albinism. The TYR-related proteins, TRP1 and TRP2, are also specifically expressed in melanocytes, and they likewise contribute to the synthesis of melanin within the melanosomes. The TRPs, including TYR, all share a similar transmembrane region, contain two metal-binding regions and a cysteine-rich epidermal growth factor motif, and are localized in the melanosomal membrane. These proteins, however, have distinct catalytic activity, and they individually contribute to the biosynthesis of melanin biopolymers. The TRPs are believed to exist as a multi-enzyme complex, as these proteins form aggregates together, and the expression of TRP1 also helps stabilize TYR in melanocytes.

CHROMOSOMAL LOCATION

Genetic locus: TYR (human) mapping to 11q14.3; Tyr (mouse) mapping to 7 D3.

SOURCE

Tyrosinase (H-109) is a rabbit polyclonal antibody raised against amino acids 421-529 mapping near the C-terminus of Tyrosinase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Tyrosinase (H-109) is recommended for detection of tyrosinase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Tyrosinase (H-109) is also recommended for detection of tyrosinase in additional species, including bovine.

Suitable for use as control antibody for Tyrosinase siRNA (h): sc-36766, Tyrosinase siRNA (m): sc-36767, Tyrosinase shRNA Plasmid (h): sc-36766-SH, Tyrosinase shRNA Plasmid (m): sc-36767-SH, Tyrosinase shRNA (h) Lenti-viral Particles: sc-36766-V and Tyrosinase shRNA (m) Lentiviral Particles: sc-36767-V.

Molecular Weight of Tyrosinase: 60 kDa.

Molecular Weight of glycosylated Tyrosinase: 70-84 kDa.

Positive Controls: B16-F0 cell lysate: sc-2298, A-375 cell lysate: sc-3811 or SK-MEL 24 whole cell lysate: sc-364259.

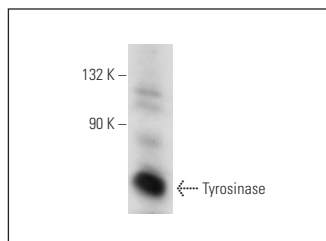
RESEARCH USE

For research use only, not for use in diagnostic procedures.

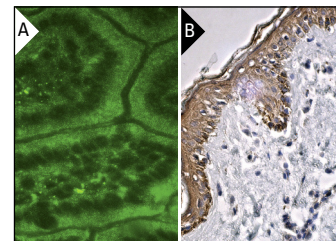
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Tyrosinase (H-109): sc-15341. Western blot analysis of Tyrosinase expression in B16-F0 whole cell lysate.



Tyrosinase (H-109): sc-15341. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of epidermal cells (B).

SELECT PRODUCT CITATIONS

- Mun, Y.J., et al. 2004. Inhibitory effect of miconazole on melanogenesis. *Biol. Pharm. Bull.* 27: 806-809.
- Deacon, D.H., et al. 2008. The use of gamma-irradiation and ultraviolet-irradiation in the preparation of human melanoma cells for use in autologous whole-cell vaccines. *BMC Cancer* 8: 360.
- Jang, J.Y., et al. 2009. Dichloromethane fraction of *Cimicifuga heracleifolia* decreases the level of melanin synthesis by activating the ERK or AKT signaling pathway in B16F10 cells. *Exp. Dermatol.* 18: 232-237
- Saha, B., et al. 2009. Sphingolipid-mediated restoration of Mitf expression and repigmentation *in vivo* in a mouse model of hair graying. *Pigment Cell Melanoma Res.* 22: 205-218.
- Vanover, J.C., et al. 2009. Stem cell factor rescues tyrosinase expression and pigmentation in discreet anatomic locations in albino mice. *Pigment Cell Melanoma Res.* 22: 827-838.
- Lee, S.A., et al. 2011. Ascorbic acid increases the activity and synthesis of tyrosinase in B16F10 cells through activation of p38 mitogen-activated protein kinase. *Arch. Dermatol. Res.* 303: 669-678.
- Son, Y.O., et al. 2011. Acteoside inhibits melanogenesis in B16F10 cells through ERK activation and tyrosinase down-regulation. *J. Pharm. Pharmacol.* 63: 1309-1319.



Try **Tyrosinase (T311): sc-20035** or **Tyrosinase (B-3): sc-514492**, our highly recommended monoclonal alternatives to Tyrosinase (H-109). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Tyrosinase (T311): sc-20035**.