SANTA CRUZ BIOTECHNOLOGY, INC.

TRP2 (H-150): sc-25544

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: DCT (human) mapping to 3q11.2; Dct (mouse) mapping to 14 E4.

SOURCE

TRP2 (H-150) is a rabbit polyclonal antibody raised against amino acids 41-190 of TRP2 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.

Available as agarose conjugate for immunoprecipitation, sc-25544 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

TRP2 (H-150) is recommended for detection of TRP2 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).

TRP2 (H-150) is also recommended for detection of TRP2 in additional species, including equine.

Suitable for use as control antibody for TRP2 siRNA (h): sc-41661, TRP2 siRNA (m): sc-41662, TRP2 shRNA Plasmid (h): sc-41661-SH, TRP2 shRNA Plasmid (m): sc-41662-SH, TRP2 shRNA (h) Lentiviral Particles: sc-41661-V and TRP2 shRNA (m) Lentiviral Particles: sc-41662-V.

Molecular Weight of TRP2 precursor: 59 kDa.

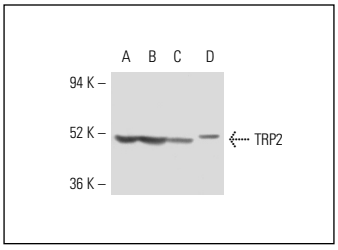
Molecular Weight of glycosylated TRP2: 75 kDa.

Positive Controls: TRP2 (h): 293T Lysate: sc-113802, A-375 cell lysate: sc-3811 or Y79 cell lysate: sc-2240.

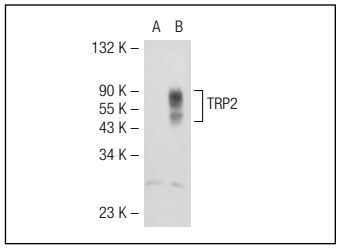
STORAGE

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

DATA



TRP2 (H-150): sc-25544. Western blot analysis of TRP2 expression in A-375 (**A**), Y79 (**B**), CTLL-2 (**C**) and WEHI-231 (**D**) whole cell lysates.



TRP2 (H-150): sc-25544. Western blot analysis of TRP2 expression in non-transfected: sc-117752 (**A**) and human TRP2 transfected: sc-113802 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Jang, J.Y., et al. 2008. 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.
2. Qian, X., et al. 2008. Pharmacologically enhanced expression of GPNMB increases the sensitivity of melanoma cells to the CR011-vcMMAE antibody-drug conjugate. Mol. Oncol. 2: 81-93.
3. Jang, J.Y., et al. 2009. Partially purified *Curcuma longa* inhibits α-melanocyte-stimulating hormone-stimulated melanogenesis through extracellular signal-regulated kinase or Akt activation-mediated signalling in B16F10 cells. Exp. Dermatol. 18: 689-694.
4. 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.
5. Kuwada, E., et al. 2011. Insoluble fraction of tumor cell homogenate is a useful material for eliciting cytotoxic T lymphocytes: a unique method for protein solubilization. Anticancer Res. 31: 881-891.
6. 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.
7. Cheung, F.W., et al. 2012. Anti-melanogenic property of geoditin A in murine B16 melanoma cells. Mar. Drugs 10: 465-476.

RESEARCH USE

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