SANTA CRUZ BIOTECHNOLOGY, INC.

TRP1 (G-17): sc-10443

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 exists 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: TYRP1 (human) mapping to 9p23; Tyrp1 (mouse) mapping to 4 C3.

SOURCE

TRP1 (G-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TRP1 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.

Blocking peptide available for competition studies, sc-10443 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-10443 PE, 100 tests; and as Alexa Fluor® 405 (sc-10443 AF405), Alexa Fluor® 488 (sc-10443 AF488) or Alexa Fluor® 647 (sc-10443 AF647) conjugates for flow cytometry or immunofluorescence; 100 µg/2 ml.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

TRP1 (G-17) is recommended for detection of TRP1 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TRP1 siRNA (h): sc-36745, TRP1 siRNA (m): sc-36744, TRP1 shRNA Plasmid (h): sc-36745-SH, TRP1 shRNA Plasmid (m): sc-36744-SH, TRP1 shRNA (h) Lentiviral Particles: sc-36745-V and TRP1 shRNA (m) Lentiviral Particles: sc-36744-V.

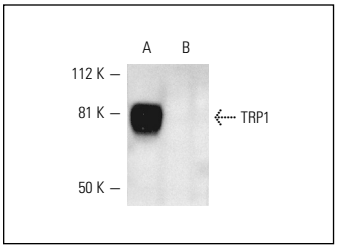
Molecular Weight of TRP1: 70-90 kDa.

Positive Controls: SK-MEL-28 cell lysate: sc-2236, B16-F0 cell lysate: sc-2298 or KNRK whole cell lysate: sc-2214.

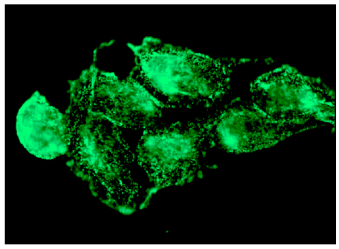
STORAGE

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

DATA



TRP1 (G-17): sc-10443. Western blot analysis of TRP1 expression in B16-F0 (**A**) and SK-MEL (**B**) whole cell lysates.



TRP1 (G-17): sc-10443. Immunofluorescence staining of methanol-fixed B16-F0 cells showing membrane staining.

SELECT PRODUCT CITATIONS

1. Nakamura, K., et al. 2003. Down-regulation of melanin synthesis by a biphenyl derivative and its mechanism. Pigment Cell Res. 16: 494-500.
2. Kim, D.S., et al. 2003. Sphingosine-1-phosphate decreases melanin synthesis via sustained ERK activation and subsequent MITF degradation. J. Cell Sci. 116: 1699-1706.
3. Bellei, B., et al. 2011. Wnt/β-catenin signaling is stimulated by α-melanocyte-stimulating hormone in melanoma and melanocyte cells: implication in cell differentiation. Pigment Cell Melanoma Res. 24: 309-325.
4. Lee, J.E., et al. 2011. The regulatory mechanism of melanogenesis by FTY720, a sphingolipid analogue. Exp. Dermatol. 20: 237-241.
5. Jang, J.Y., et al. 2011. Partially purified components of *Nardostachys chinensis* suppress melanin synthesis through ERK and Akt signaling pathway with cAMP down-regulation in B16F10 cells. J. Ethnopharmacol. 137: 1207-1214.
6. Jang, J.Y., et al. 2012. Aqueous fraction from *Cuscuta japonica* seed suppresses melanin synthesis through inhibition of the p38 mitogen-activated protein kinase signaling pathway in B16F10 cells. J. Ethnopharmacol. 141: 338-344.
7. Kim, J.Y., et al. 2012. Co-culture of melanocytes with adipose-derived stem cells as a potential substitute for co-culture with keratinocytes. Acta Derm. Venereol. 92: 16-23.

RESEARCH USE

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