

TRP1 (M-19): sc-10448

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.

REFERENCES

1. Korner, A., et al. 1982. Mammalian tyrosinase catalyzes three reactions in the biosynthesis of melanin. *Science* 217: 1163-1165.
2. Shibahara, S., et al. 1986. Cloning and expression of cDNA encoding mouse tyrosinase. *Nucleic Acids Res.* 14: 2413-2427.

CHROMOSOMAL LOCATION

Genetic locus: *Tyrp1* (mouse) mapping to 4 C3.

SOURCE

TRP1 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TRP1 of mouse 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-10448 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-10448 PE, 100 tests, Alexa Fluor[®] 405 (sc-10448 AF405), Alexa Fluor[®] 488 (sc-10448 AF488) or Alexa Fluor[®] 647 (sc-10448 AF647) conjugates for flow cytometry or immunofluorescence; 100 µg/2 ml.

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

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

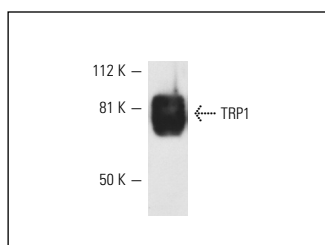
TRP1 (M-19) is recommended for detection of TRP1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

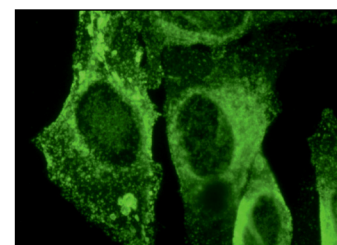
Molecular Weight of TRP1: 67 kDa.

Positive Controls: B16-F0 cell lysate: sc-2298 or SK-MEL whole cell lysate.

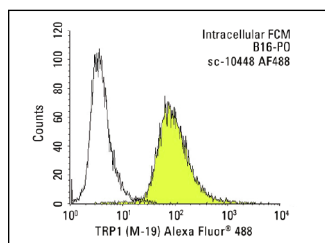
DATA



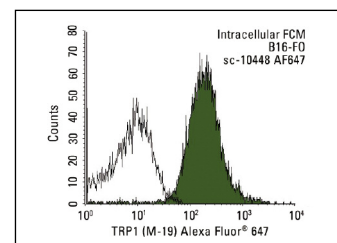
TRP1 (M-19): sc-10448. Immunofluorescence staining of methanol-fixed B16-F0 cells showing cytoplasmic localization.



TRP1 (M-19): sc-10448. Western blot analysis of TRP1 expression in mouse B16-F0 whole cell lysate.



TRP1 (M-19) AF488: sc-10448 AF488. Intracellular FCM analysis of fixed and permeabilized B16-F0 cells. Black line histogram represents the isotype control, normal goat IgG: sc-45067.



TRP1 (M-19) AF647: sc-10448 AF647. Intracellular FCM analysis of fixed and permeabilized B16-F0 cells. Black line histogram represents the isotype control, normal goat IgG: sc-45066.

SELECT PRODUCT CITATIONS

1. Jeong, E.T., et al. 2010. Inhibition of melanogenesis by piceid isolated from *Polygonum cuspidatum*. *Arch. Pharm. Res.* 33: 1331-1338.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **TRP1 (G-9): sc-166857** or **TRP1 (B-2): sc-514900**, our highly recommended monoclonal alternatives to TRP1 (M-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **TRP1 (G-9): sc-166857**.