SANTA CRUZ BIOTECHNOLOGY, INC.

melanotransferrin (E-4): sc-271633

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Melanotransferrin is a member of the transferrin family of iron-binding proteins, which also includes serum transferrin, lactoferrin, and ovotransferrin, and it is highly expressed on melanoma cells. Melanotransferrin, also designated p97, shares a high degree of homology with transferrin, but does not play a significant role in the uptake of iron. Melanotransferrin utilizes a member of the low-density lipoprotein receptor family for transendothelial transport, which is not as efficient as the transport of transferrin through the corresponding transferrin receptor. The gene encoding human melanotransferrin maps to chromosome 3q29, and is predominantly expressed as either a membrane bound protein or a secreted form of the protein. Melanotransferrin is expressed in brain, where it may be involved in Alzheimer's disease. Melanotransferrin may also protect against membrane-lipid peroxidation, possess a metalloprotease activity, and possibly participate in intracellular adhesion. Further research will be necessary to fully elucidate the functions of this protein.

REFERENCES

1. Le Beau, M.M., et al. 1986. Chromosomal sublocalization of the human p97 melanoma antigen. Hum. Genet. 72: 294-296.
2. Garratt, R.C., et al. 1992. A molecular model for the tumour-associated antigen, p97, suggests a Zn-binding function. FEBS Lett. 305: 55-61.
3. Rothenberger, S., et al. 1996. Coincident expression and distribution of melanotransferrin and transferrin receptor in human brain capillary endothelium. Brain Res. 712: 117-121.
4. Yamada, T., et al. 1999. Melanotransferrin is produced by senile plaque-associated reactive microglia in Alzheimer's disease. Brain Res. 845: 1-5.

CHROMOSOMAL LOCATION

Genetic locus: MFI2 (human) mapping to 3q29; Meltf (mouse) mapping to 16 B2.

SOURCE

melanotransferrin (E-4) is a mouse monoclonal antibody raised against amino acids 601-670 mapping near the C-terminus of melanotransferrin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

melanotransferrin (E-4) is available conjugated to agarose (sc-271633 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271633 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271633 PE), fluorescein (sc-271633 FITC), Alexa Fluor® 488 (sc-271633 AF488), Alexa Fluor® 546 (sc-271633 AF546), Alexa Fluor® 594 (sc-271633 AF594) or Alexa Fluor® 647 (sc-271633 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271633 AF680) or Alexa Fluor® 790 (sc-271633 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

melanotransferrin (E-4) is recommended for detection of melanotransferrin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for melanotransferrin siRNA (h): sc-41373, melanotransferrin siRNA (m): sc-41374, melanotransferrin shRNA Plasmid (h): sc-41373-SH, melanotransferrin shRNA Plasmid (m): sc-41374-SH, melanotransferrin shRNA (h) Lentiviral Particles: sc-41373-V and melanotransferrin shRNA (m) Lentiviral Particles: sc-41374-V.

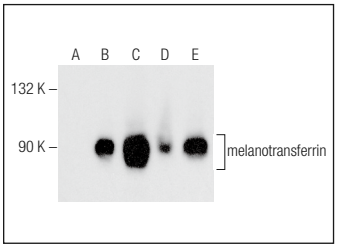
Molecular Weight of melanotransferrin: 82 kDa.

Positive Controls: SK-MEL-28 cell lysate: sc-2236, melanotransferrin (h): 293T Lysate: sc-171124 or A-431 whole cell lysate: sc-2201.

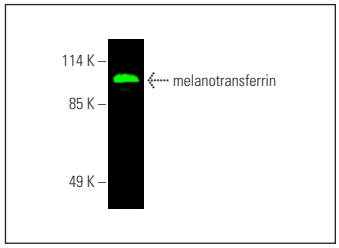
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



melanotransferrin (E-4): sc-271633. Western blot analysis of melanotransferrin expression in non-transfected 293T: sc-117752 (**A**), human melanotransferrin transfected 293T: sc-171124 (**B**), SK-MEL-28 (**C**) and A-431 (**D**) whole cell lysates and human skin tissue extract (**E**).



melanotransferrin (E-4): sc-271633. Near-infrared western blot analysis of melanotransferrin expression in SK-MEL-28 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

STORAGE

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

RESEARCH USE

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