

melanotransferrin (P-20): sc-26649

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

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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.
5. Richardson, D.R. 2000. The role of the membrane-bound tumour antigen, melanotransferrin (p97), in iron uptake by the human malignant melanoma cell. *Eur. J. Biochem.* 267: 1290-1298.
6. Sekyere, E., et al. 2000. The membrane-bound transferrin homologue melanotransferrin: roles other than iron transport? *FEBS Lett.* 483: 11-16.
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8. Demeule, M., et al. 2002. High transcytosis of melanotransferrin (P97) across the blood-brain barrier. *J. Neurochem.* 83: 924-933.
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CHROMOSOMAL LOCATION

Genetic locus: MFI2 (human) mapping to 3q29; Mfi2 (mouse) mapping to 16 B2.

STORAGE

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

SOURCE

melanotransferrin (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of melanotransferrin 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-26649 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

melanotransferrin (P-20) is recommended for detection of melanotransferrin isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

melanotransferrin (P-20) is also recommended for detection of melanotransferrin isoforms 1 and 2 in additional species, including equine, canine, bovine and porcine.

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, C32 whole cell lysate: sc-2205 or A-431 whole cell lysate: sc-2201.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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



Try **melanotransferrin (E-4): sc-271633** or **melanotransferrin (A-3): sc-271006**, our highly recommended monoclonal alternatives to melanotransferrin (P-20).