

melanotransferrin (h): 293T Lysate: sc-171124

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.
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.
7. Sala, R., et al. 2002. The human melanoma associated protein melanotransferrin promotes endothelial cell migration and angiogenesis *in vivo*. *Eur. J. Cell Biol.* 81: 599-607.

CHROMOSOMAL LOCATION

Genetic locus: MFI2 (human) mapping to 3q29.

PRODUCT

melanotransferrin (h): 293T Lysate represents a lysate of human melanotransferrin transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

melanotransferrin (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive melanotransferrin antibodies. Recommended use: 10-20 µl per lane.

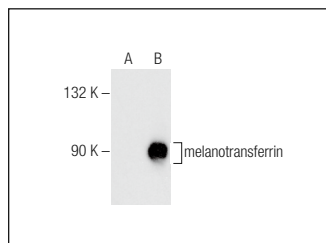
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

melanotransferrin (E-4): sc-271633 is recommended as a positive control antibody for Western Blot analysis of enhanced human melanotransferrin expression in melanotransferrin transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

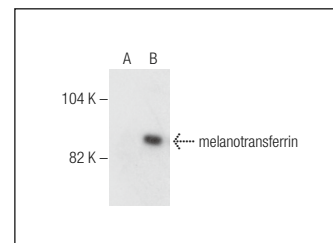
RECOMMENDED SUPPORT REAGENTS

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.

DATA



melanotransferrin (E-4): sc-271633. Western blot analysis of melanotransferrin expression in non-transfected: sc-117752 (A) and human melanotransferrin transfected: sc-171124 (B) 293T whole cell lysates.



melanotransferrin (A-3): sc-271006. Western blot analysis of melanotransferrin expression in non-transfected: sc-117752 (A) and human melanotransferrin transfected: sc-171124 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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