SANTA CRUZ BIOTECHNOLOGY, INC.

TFR2 (h): 293T Lysate: sc-112673

BACKGROUND

Iron is a vital molecule for living organisms because it is involved in a wide variety of metabolic processes, such as oxygen transport, DNA synthesis and electron transport. Excessive iron uptake leads to tissue damage as a result of formation of free radicals. Iron uptake and storage is tightly regulated by the feedback system of iron responsive element-containing gene products and iron regulatory proteins that modulate the expression levels of the genes involved in iron metabolism. The transferrin receptor 2 (TFR2) mediates the uptake of transferrin-bound iron. It is involved in iron metabolism, hepatocyte function and erythrocyte differentiation, and is highly expressed as a protein in liver as well as in hepatocytes and erythroid precursors. The gene encoding human TRF2 maps to chromosome 7q22.1 and is expressed as an α isoform, which encodes a transmembrane protein, and a β isoform, which encodes a shorter, intracellular protein. Mutations in the TFR2 gene result in hereditary hemochromatosis type III (HFE3), an iron overloading disorder that results in clinical complications, including cirrhosis, cardiopathy, diabetes, endocrine dysfunctions, arthropathy and susceptibility to liver cancer.

REFERENCES

1. Lieu, P.T., et al. 2001. The roles of iron in health and disease. Mol. Aspects Med. 22: 1-87.
2. Roetto, A., et al. 2001. New mutations inactivating transferrin receptor 2 in hemochromatosis type 3. Blood 97: 2555-2560.
3. Kawabata, H., et al. 2001. Regulation of expression of murine transferrin receptor 2. Blood 98: 1949-1954.
4. Kawabata, H., et al. 2001. Expression of transferrin receptor 2 in normal and neoplastic hematopoietic cells. Blood 98: 2714-2719.
5. Deaglio, S., et al. 2002. Structural, functional, and tissue distribution analysis of human transferrin receptor-2 by murine monoclonal antibodies and a polyclonal antiserum. Blood 100: 3782-3789.
6. Camaschella, C., et al. 2002. Genetic haemochromatosis: genes and mutations associated with iron loading. Best Pract. Res. Clin. Haematol. 15: 261-276.

CHROMOSOMAL LOCATION

Genetic locus: TFR2 (human) mapping to 7q22.1.

PRODUCT

TFR2 (h): 293T Lysate represents a lysate of human TFR2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

TFR2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive TFR2 antibodies. Recommended use: 10-20 µl per lane.

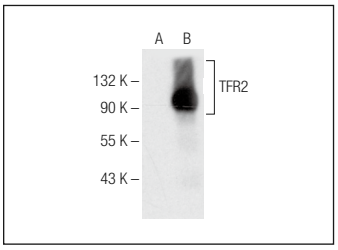
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TFR2 (B-6): sc-376278 is recommended as a positive control antibody for Western Blot analysis of enhanced human TFR2 expression in TFR2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

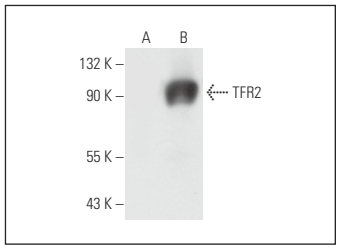
RECOMMENDED SUPPORT REAGENTS

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



TFR2 (B-6): sc-376278. Western blot analysis of TFR2 expression in non-transfected: sc-117752 (**A**) and human TFR2 transfected: sc-112673 (**B**) 293T whole cell lysates.



TFR2 (9F8 1C11): sc-32271. Western blot analysis of TFR2 expression in non-transfected: sc-117752 (**A**) and human TFR2 transfected: sc-112673 (**B**) 293T whole cell lysates.

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.

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.