**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 the 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, hematopoietic 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 TFR2 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.

**CHROMOSOMAL LOCATION**

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

**SOURCE**

TFR2 (9F8 1C11) is a mouse monoclonal antibody raised against the purified ectodomains of human TFR2.

**PRODUCT**

Each vial contains 200 µg IgG\(_1\) kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TFR2 (9F8 1C11) is available conjugated to agarose (sc-32271 AC), 500 µg/ml, for WB, IP; to HRP (sc-32271 HRP), 200 µg/ml, for WB, IHC(P) and FCM; and to either Alexa Fluor® 546 (sc-32271 AF546), Alexa Fluor® 594 (sc-32271 AF594) or Alexa Fluor® 647 (sc-32271 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 488 (sc-32271 AF488), Alexa Fluor® 546 (sc-32271 AF546), Alexa Fluor® 594 (sc-32271 AF594) or Alexa Fluor® 647 (sc-32271 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 568 (sc-32271 AF568) or Alexa Fluor® 790 (sc-32271 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

TFR2 (9F8 1C11) is recommended for detection of TFR2 of human 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TFR2 siRNA (h): sc-42997, TFR2 shRNA Plasmid (h): sc-42997-Sh and TFR2 shRNA (h) Lentiviral Particles: sc-42997-V.

Molecular Weight of TFR2: 97-105 KDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, TF-1 cell lysate: sc-2412 or MEG-01 cell lysate: sc-2283.

**STORAGE**

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

**DATA**

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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

**PROTOCOLS**

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

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