

NRAMP 1 (E-20): sc-16885

BACKGROUND

Natural resistance associated macrophage proteins (NRAMPs) belong to a super-family of highly conserved integral membrane proteins. NRAMP 1 is an intracellular macrophage protein located at the phagosomal membrane where it functions as a divalent cation transporter for Fe²⁺, Zn²⁺ and Mn²⁺. NRAMP 1 is a pH-dependent antiporter that transports metal ions either into or out of the phagosome against a proton gradient. The gene encoding human NRAMP 1 maps to chromosome 2q35. In humans, polymorphisms in the NRAMP 1 gene are linked to susceptibility to *M. tuberculosis* and leprosy. NRAMP 2 is another divalent cation transporter ubiquitously expressed as two splice variants, which are distinguished by the presence (isoform 1) or absence (isoform 2) of an iron response element. In the duodenum of the small intestine, dietary iron regulates NRAMP 2 expression at the brush border. The gene encoding human NRAMP 2 maps to chromosome 12q13. Mutations in the gene for NRAMP 2 in mice and rats result in severe anemia.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: SLC11A1 (human) mapping to 2q35; Slc11a1 (mouse) mapping to 1 C3.

SOURCE

NRAMP 1 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NRAMP 1 of human origin.

STORAGE

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

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-16885 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NRAMP 1 (E-20) is recommended for detection of NRAMP 1 of human and, to a lesser extent, mouse and rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NRAMP 1 (E-20) is also recommended for detection of NRAMP 1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for NRAMP 1 siRNA (h): sc-36099, NRAMP 1 siRNA (m): sc-36100, NRAMP 1 shRNA Plasmid (h): sc-36099-SH, NRAMP 1 shRNA Plasmid (m): sc-36100-SH, NRAMP 1 shRNA (h) Lentiviral Particles: sc-36099-V and NRAMP 1 shRNA (m) Lentiviral Particles: sc-36100-V.

Molecular Weight of NRAMP 1: 65 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234 or U-937 cell lysate: sc-2239.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

PROTOCOLS

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