

HIAT1 (K-17): sc-247145

BACKGROUND

The Major facilitator superfamily consists of presumed carbohydrate transporters with 10-12 membrane-spanning domains. Belonging to the facilitator superfamily, HIAT1 (Hippocampus abundant transcript 1), also known as tetracycline transporter-like protein, is a 490 amino acid multi-pass membrane protein that may function as a sugar transporter and is expressed in adult and embryonic brain. The HIAT1 gene was first observed while analyzing for active genes in neonatal mouse hippocampus. The gene encoding HIAT1 maps to human chromosome 1, the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. There are about 3,000 genes on chromosome 1, and considering the great number of genes there are also a large number of diseases associated with chromosome 1. Notably, the rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene which encodes lamin A. Stickler syndrome, Parkinsons, schizophrenia, familial adenomatous polyposis, Gaucher disease and Usher syndrome are also associated with chromosome 1.

REFERENCES

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2. Matsuo, N., et al. 1997. Cloning of a cDNA encoding a novel sugar transporter expressed in the neonatal mouse hippocampus. *Biochem. Biophys. Res. Commun.* 238: 126-129.
3. Blackwood, D.H., et al. 2001. Schizophrenia and affective disorders— cosegregation with a translocation at chromosome 1q42 that directly disrupts brain-expressed genes: clinical and P300 findings in a family. *Am. J. Hum. Genet.* 69: 428-433.
4. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
5. Lans, H. and Hoeijmakers, J.H. 2006. Cell biology: ageing nucleus gets out of shape. *Nature* 440: 32-34.
6. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. *Nature* 441: 315-321.
7. Hennah, W., et al. 2006. Genes and schizophrenia: beyond schizophrenia: the role of DISC1 in major mental illness. *Schizophr. Bull.* 32: 409-416.

CHROMOSOMAL LOCATION

Genetic locus: HIAT1 (human) mapping to 1p21.2; Hiatt1 (mouse) mapping to 3 G1.

SOURCE

HIAT1 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of HIAT1 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-247145 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HIAT1 (K-17) is recommended for detection of HIAT1 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); non cross-reactive with HIATL1.

HIAT1 (K-17) is also recommended for detection of HIAT1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HIAT1 siRNA (h): sc-88182, HIAT1 siRNA (m): sc-145955, HIAT1 shRNA Plasmid (h): sc-88182-SH, HIAT1 shRNA Plasmid (m): sc-145955-SH, HIAT1 shRNA (h) Lentiviral Particles: sc-88182-V and HIAT1 shRNA (m) Lentiviral Particles: sc-145955-V.

Molecular Weight of HIAT1: 53 kDa.

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.

PROTOCOLS

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