SANTA CRUZ BIOTECHNOLOGY, INC.

FVT1 (SS-7): sc-100589

BACKGROUND

FVT1 (follicular variant translocation protein 1), also known as KDSR (3-ketodihydrosphingosine reductase) or DHSR, is a 332 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum (ER) and belongs to the short-chain dehydrogenases/reductases (SDR) family. Widely expressed with highest expression in placenta, kidney, lung, small intestine and stomach, FVT1 catalyzes the NADP-dependent reduction of 3-ketodihydrosphingosine (KDS) to dihydrosphingosine (DHS), a key reaction in sphingolipid metabolism. In humans, defects in the gene encoding FVT1 are associated with follicular lymphoma (also known as type II chronic lymphatic leukemia), a common, slow-growing cancer arising from B cells. Mutations in the gene encoding the corresponding bovine ortholog are associated with spinal muscular atrophy, a general term for a number of disorders characterized by a loss of motor neurons in the brainstem and spinal cord.

REFERENCES

1. Rimokh, R., et al. 1993. FVT1, a novel human transcription unit affected by variant translocation t(2;18)(p11;q21) of follicular lymphoma. Blood 81: 136-142.
2. Nacheva, E., et al. 1994. B cell non-Hodgkin's lymphoma cell line (Karpas 1106) with complex translocation involving 18q21.3 but lacking Bcl-2 rearrangement and expression. Blood 84: 3422-3428.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 136440. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Wang, J., et al. 2003. Uterine tumor resembling ovarian sex cord tumor: report of a case with t(X;6)(p22.3;q23.1) and t(4;18)(q21.1;q21.3). Diagn. Mol. Pathol. 12: 174-180.
5. Kihara, A., et al. 2004. FVT1 is a mammalian 3-ketodihydrosphingosine reductase with an active site that faces the cytosolic side of the endoplasmic reticulum membrane. J. Biol. Chem. 279: 49243-49250.
6. Krebs, S., et al. 2007. A missense mutation in the 3-ketodihydrosphingosine reductase FVT1 as candidate causal mutation for bovine spinal muscular atrophy. Proc. Natl. Acad. Sci. USA 104: 6746-6751.
7. Parkinson, N.J., et al. 2008. Candidate screening of the bovine and feline spinal muscular atrophy genes reveals no evidence for involvement in human motor neuron disorders. Neuromuscul. Disord. 18: 394-397.

CHROMOSOMAL LOCATION

Genetic locus: KDSR (human) mapping to 18q21.33.

SOURCE

FVT1 (SS-7) is a mouse monoclonal antibody raised against recombinant FVT1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FVT1 (SS-7) is recommended for detection of FVT1 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FVT1 siRNA (h): sc-75069, FVT1 shRNA Plasmid (h): sc-75069-SH and FVT1 shRNA (h) Lentiviral Particles: sc-75069-V.

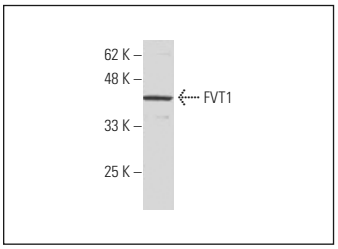
Molecular Weight of FVT1: 36 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

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

DATA



FVT1 (SS-7): sc-100589. Western blot analysis of FVT1 expression in Jurkat whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. 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.