

SAMHD1 (D-14): sc-86212

BACKGROUND

SAMHD1 (SAM domain and HD domain 1) is a 626 amino acid protein that belongs to the SAMHD1 family. SAMHD1 functions as a putative nuclease involved in innate immune response by acting as a negative regulator of the cell-intrinsic antiviral response. SAMHD1 may also play a role in mediating proinflammatory responses to TNF- α signaling. Expressed in heart, skeletal muscle, spleen, liver, small intestine, placenta, lung and peripheral blood leukocytes, SAMHD1 expression is not seen in brain and thymus. Defects in SAMHD1 are the cause of chilblain lupus type 2 (CHBL2), a rare cutaneous form of lupus erythematosus. Affected individuals present with painful bluish-red papular or nodular lesions of the skin in acral locations precipitated by cold and wet exposure at temperatures less than 10 degrees centigrade. SAMHD1 is 72% identical to mouse Mg11, contains several phosphorylation and N-myristoylation sites, an N-glycosylation site and an amidation site. Existing as two alternatively spliced isoforms, the SAMHD1 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, *C. elegans* and *A. thaliana*, and maps to human chromosome 20q11.23.

REFERENCES

1. Prusiner, S.B. 1998. The prion diseases. *Brain Pathol.* 8: 499-513.
2. Collins, S., McLean, C.A. and Masters, C.L. 2001. Gerstmann-Sträussler-Scheinker syndrome, fatal familial insomnia and kuru: a review of these less common human transmissible spongiform encephalopathies. *J. Clin. Neurosci.* 8: 387-397.
3. Masullo, C. and Macchi, G. 2001. Does PRNP gene control the clinical and pathological phenotype of human spongiform transmissible encephalopathies? *Clin. Neuropathol.* 20: 19-25.
4. Joó, J.G., Beke, A., Tóth-Pál, E., Hargitai, B., Szigeti, Z., Papp, C. and Papp, Z. 2006. Trisomy 20 mosaicism and nonmosaic trisomy 20: a report of 2 cases. *J. Reprod. Med.* 51: 209-212.

CHROMOSOMAL LOCATION

Genetic locus: SAMHD1 (human) mapping to 20q11.23; Samhd1 (mouse) mapping to 2 H1.

SOURCE

SAMHD1 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SAMHD1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-86212 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SAMHD1 (D-14) is recommended for detection of SAMHD1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SAMHD1 (D-14) is also recommended for detection of SAMHD1 in additional species, including canine and avian.

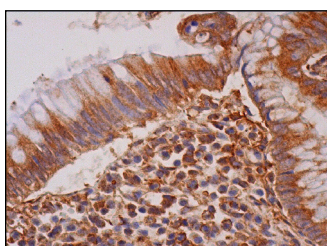
Suitable for use as control antibody for SAMHD1 siRNA (h): sc-76442, SAMHD1 siRNA (m): sc-153213, SAMHD1 shRNA Plasmid (h): sc-76442-SH, SAMHD1 shRNA Plasmid (m): sc-153213-SH, SAMHD1 shRNA (h) Lentiviral Particles: sc-76442-V and SAMHD1 shRNA (m) Lentiviral Particles: sc-153213-V.

Molecular Weight of SAMHD1 isoforms 1/2: 72/69 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SAMHD1 (D-14): sc-86212. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic and membrane staining of glandular cells and lymphoid cells.

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.