SANTA CRUZ BIOTECHNOLOGY, INC.

AMDHD1 (D-12): sc-138098

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The Power to Question

BACKGROUND

AMDHD1 (amidohydrolase domain containing 1), also known as probable imidazolonepropionase, is a 426 amino acid protein belonging to the hutI family. AMDHD1 participates in hydrolase activity, acting on carbon-nitrogen bonds, but not peptide bonds, in cyclic amides. AMDHD1 also functions in imidazolonepropionase activity and metal ion binding, whereby binding one iron or zinc ion per subunit. AMDHD1 is encoded by a gene that maps to human chromosome 12, which encodes over 1,100 genes within 132 million bases and makes up approximately 4.5% of the human genome. A number of skeletal deformities are linked to chromosome 12, including hypochondrogenesis, achondrogenesis and Kniest dysplasia. Noonan syndrome, characterized by heart and facial developmental defects, is caused by a mutant form of the PTPN11 gene product, SH-PTP2. Chromosome 12 is also linked to a homeobox gene cluster, which encodes crucial transcription factors for morphogenesis, and the natural killer complex gene cluster that encodes C-type lectin proteins, which mediate the NK cell response to MHC I interaction.

REFERENCES

1. Yang, W. and Cole, W.G. 1998. Low basal transcripts of the COL2A1 collagen gene from lymphoblasts show alternative splicing of exon 12 in the Kniest form of spondyloepiphyseal dysplasia. Hum. Mutat. Suppl1: S1-S2.
2. Trowsdale, J., Barten, R., Haude, A., Stewart, C.A., Beck, S. and Wilson, M.J. 2001. The genomic context of natural killer receptor extended gene families. Immunol. Rev. 181: 20-38.
3. Nishimura, G., Haga, N., Kitoh, H., Tanaka, Y., Sonoda, T., Kitamura, M., Shirahama, S., Itoh, T., Nakashima, E., Ohashi, H. and Ikegawa, S. 2005. The phenotypic spectrum of COL2A1 mutations. Hum. Mutat. 26: 36-43.
4. Kelley, J., Walter, L. and Trowsdale, J. 2005. Comparative genomics of natural killer cell receptor gene clusters. PLoS Genet. 1: 129-139.
5. van der Burgt, I. 2007. Noonan syndrome. Orphanet. J. Rare Dis. 2: 4.
6. Yang, T., Meng, Y., Shi, H., Zhao, S., Wang, G. and Huang, S. 2010. Mutation analysis of PTPN11 gene in Noonan syndrome. Zhonghua Yi Xue Yi Chuan Xue Za Zhi 27: 554-558.
7. SWISS-PROT/TrEMBL (Q96NU7). World Wide Web URL: http://www.uniprot.org/uniprot/Q96NU7

CHROMOSOMAL LOCATION

Genetic locus: AMDHD1 (human) mapping to 12q23.1; Amdhd1 (mouse) mapping to 10 C2.

SOURCE

AMDHD1 (D-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of AMDHD1 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 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138098 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AMDHD1 (D-12) is recommended for detection of AMDHD1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with AMDHD2.

AMDHD1 (D-12) is also recommended for detection of AMDHD1 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for AMDHD1 siRNA (h): sc-96036, AMDHD1 siRNA (m): sc-141041, AMDHD1 shRNA Plasmid (h): sc-96036-SH, AMDHD1 shRNA Plasmid (m): sc-141041-SH, AMDHD1 shRNA (h) Lentiviral Particles: sc-96036-V and AMDHD1 shRNA (m) Lentiviral Particles: sc-141041-V.

Molecular Weight of AMDHD1: 47 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.