SANTA CRUZ BIOTECHNOLOGY, INC.

ABHD4 (N-15): sc-104791

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The α/β hydrolase superfamily is comprised of diverse members that are involved in important biochemical processes and related to various diseases. They have unrelated sequences, various substrates, and different kinds of catalytic activities, yet they share the same canonical α/β hydrolase fold, which consists of an eight-stranded parallel α/β structure. They are also characterized by a catalytic triad composed of a histidine, an acid and a nucleophile. Members of this superfamily are often drug targets for treating diseases, such as diabetes, Alzheimer's disease, obesity and blood clotting disorders. ABHD1 plays a role in metabolizing smoking xenobiotics. ABHD2 participates in the development of atherosclerosis. ABHD4 is involved in an alternative synthesis pathway of NAE. ABHD4 is a lysophospholipase selective for N-acyl phosphatidylethanolamine (NAPE) which participates in the biosynthesis of N-acyl ethanolamines. Mutations in ABHD5 contribute to Chanarin-Dorfman syndrome. ABDH6 may play a role in nervous system metabolism and signaling. ABHD14A is possibly involved in granule neuron development.

REFERENCES

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2. Holmquist, M. 2000. α/β-hydrolase fold enzymes: structures, functions and mechanisms. Curr. Protein Pept. Sci. 1: 209-235.
3. Edgar, A.J. and Polak, J.M. 2002. Cloning and tissue distribution of three murine α/β hydrolase fold protein cDNAs. Biochem. Biophys. Res. Commun. 292: 617-625.
4. Simon, G.M. and Cravatt, B.F. 2006. Endocannabinoid biosynthesis proceeding through glycerophospho-N-acyl ethanolamine and a role for α/β-hydrolase 4 in this pathway. J. Biol. Chem. 281: 26465-26472.
5. Miyata, K., Nakayama, M., Mizuta, S., Hokimoto, S., Sugamura, K., Oshima, S., Oike, Y., Sugiyama, S., Ogawa, H. and Yamamura, K. 2008. Elevated mature macrophage expression of human ABHD2 gene in vulnerable plaque. Biochem. Biophys. Res. Commun. 365: 207-213.
6. Li, F., Fei, X., Xu, J. and Ji, C. 2009. An unannotated α/β hydrolase superfamily member, ABHD6 differentially expressed among cancer cell lines. Mol. Biol. Rep. 36: 691-696.

CHROMOSOMAL LOCATION

Genetic locus: ABHD4 (human) mapping to 14q11.2; Abhd4 (mouse) mapping to 14 C2.

SOURCE

ABHD4 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of ABHD4 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-104791 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ABHD4 (N-15) is recommended for detection of ABHD4 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 other ABHD family members.

ABHD4 (N-15) is also recommended for detection of ABHD4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ABHD4 siRNA (h): sc-92382, ABHD4 siRNA (m): sc-140772, ABHD4 shRNA Plasmid (h): sc-92382-SH, ABHD4 shRNA Plasmid (m): sc-140772-SH, ABHD4 shRNA (h) Lentiviral Particles: sc-92382-V and ABHD4 shRNA (m) Lentiviral Particles: sc-140772-V.

Molecular Weight of ABHD4: 39 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.

SELECT PRODUCT CITATIONS

1. Varga, A., Jenes, A., Marczylo, T.H., Sousa-Valente, J., Chen, J., Austin, J., Selvarajah, S., Piscitelli, F., Andreou, A.P., Taylor, A.H., et al. 2014. Anandamide produced by Ca^{2+}-insensitive enzymes induces excitation in primary sensory neurons. Pflugers Arch. 466: 1421-1435.

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.