

ABHD1 (D-15): sc-167035

BACKGROUND

The α/β hydrolase superfamily comprise 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. The AB hydrolase domain containing (ABHD) gene subfamily is comprised of 15 mostly uncharacterized members, most of which utilize a serine nucleophile to form the G-X-S-X-G nucleophile elbow. ABHD1 is a 405 amino acid single-pass type II membrane protein that belongs to the AB hydrolase superfamily and the AB hydrolase 4 family. Ubiquitously expressed, ABHD1 plays a role in metabolizing smoking xenobiotics.

REFERENCES

1. Ollis, D.L., et al. 1992. The α/β hydrolase fold. *Protein Eng.* 5: 197-211.
2. Holmquist, M. 2000. α/β -hydrolase fold enzymes: structures, functions and mechanisms. *Curr. Protein Pept. Sci.* 1: 209-235.
3. Lefèvre, C., et al. 2001. Mutations in CGI-58, the gene encoding a new protein of the esterase/lipase/thioesterase subfamily, in Chanarin-Dorfman syndrome. *Am. J. Hum. Genet.* 69: 1002-1012.
4. Edgar, A.J., et al. 2002. Cloning and tissue distribution of three murine α/β hydrolase fold protein cDNAs. *Biochem. Biophys. Res. Commun.* 292: 617-625.
5. Simon, G.M., et al. 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.
6. Miyata, K., et al. 2008. Elevated mature macrophage expression of human ABHD2 gene in vulnerable plaque. *Biochem. Biophys. Res. Commun.* 365: 207-213.
7. Li, F., et al. 2008. An unannotated α/β hydrolase superfamily member, ABHD6 differentially expressed among cancer cell lines. *Mol. Biol. Rep.* 36: 691-696.

CHROMOSOMAL LOCATION

Genetic locus: ABHD1 (human) mapping to 2p23.3; Abhd1 (mouse) mapping to 5 B1.

SOURCE

ABHD1 (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ABHD1 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-167035 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ABHD1 (D-15) is recommended for detection of ABHD1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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.

ABHD1 (D-15) is also recommended for detection of ABHD1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for ABHD1 siRNA (h): sc-94259, ABHD1 shRNA Plasmid (h): sc-94259-SH and ABHD1 shRNA (h) Lentiviral Particles: sc-94259-V.

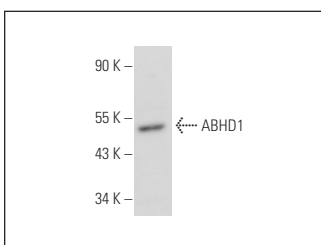
Molecular Weight of ABHD1: 45 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ABHD1 (D-15): sc-167035. Western blot analysis of ABHD1 expression in NIH/3T3 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 or our catalog for detailed protocols and support products.