BACKGROUND

ALKBH3 (alkB, alkylation repair homolog 3), also known as ABH3, PCA1 (prostate cancer antigen 1), DEPC1 or DEPC-1, is a 286 amino acid member of the AlkB family of proteins and functions as a dioxygenase with a preference for RNA and single stranded DNA substrates. ALKBH3 is one of many homologs of the Escherichia coli protein, AlkB. ALKBH3 is expressed in a wide variety of tissues and localizes to the cytoplasm and the nucleus. It associates with iron and 2-oxoglutarate, coupling the oxidation of substrates to the conversion of 2-oxoglutarate into succinate and CO₂. Via oxidative demethylation, ALKBH3 repairs 1-methyladenine and 3-methylcytosine lesions in alkylated DNA and RNA. Its activity is stimulated by ascorbate. Two isoforms exist for ALKBH3 due to alternative splicing of the gene.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: ALKBH3 (human) mapping to 11p11.2; Alkbh3 (mouse) mapping to 2 E1.

SOURCE

ALKBH3 (B-7) is a mouse monoclonal antibody raised against amino acids 1-270 mapping at the N-terminus of ALKBH3 of human origin.

PRODUCT

Each vial contains 200 µg IgG κ, kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ALKBH3 (B-7) is recommended for detection of ALKBH3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for ALKBH3 siRNA (h): sc-96711, ALKBH3 siRNA (m): sc-141020, ALKBH3 shRNA Plasmid (h): sc-96711-SH, ALKBH3 shRNA Plasmid (m): sc-141020-SH, ALKBH3 shRNA (h) Lentiviral Particles: sc-96711-V and ALKBH3 shRNA (m) Lentiviral Particles: sc-141020-V.

Molecular Weight of ALKBH3: 33 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270 or K-562 whole cell lysate: sc-2203 or DU 145 cell lysate: sc-2268.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:


DATA

ALKBH3 (B-7): sc-376520. Western blot analysis of ALKBH3 expression in K-562 (A), HEL 92.1.7 (B), DU 145 (C), M1 (D) and C2C12 (E) whole cell lysates.

ALKBH3 (B-7): sc-376520. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

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.