

# ALKBH4 (D-16): sc-244888

## BACKGROUND

ALKBH4 (alkB, alkylation repair homolog 4), also known as ABH4, is a 302 amino acid protein belonging to the alkB family. ALKBH4 is one of many homologs of the *Escherichia coli* protein AlkB. AlkB functions to protect DNA and RNA against damage from environmental methylating compounds by directly reversing 1-methyladenine (1-meA) and 3-methylcytosine (3-meC) cytotoxic alkylation lesions in DNA and RNA. The enzyme acts by oxidative demethylation, utilizing ferrous iron and  $\alpha$ -ketoglutarate as cofactors, 2-oxoglutarate as a co-substrate and molecular oxygen as the oxidizing agent. ALKBH4 exists as 2 alternatively spliced isoforms and is encoded by a gene located on human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome.

## REFERENCES

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- Fix, D., et al. 2008. Transcription increases methylmethane sulfonate-induced mutations in alkB strains of *Escherichia coli*. *DNA Repair* 7: 1289-1297.
- Yang, C.G., et al. 2008. Crystal structures of DNA/RNA repair enzymes AlkB and ABH2 bound to dsDNA. *Nature* 452: 961-965

## CHROMOSOMAL LOCATION

Genetic locus: ALKBH4 (human) mapping to 7q22.1; Alkbh4 (mouse) mapping to 5 G2.

## SOURCE

ALKBH4 (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ALKBH4 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## PRODUCT

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

Blocking peptide available for competition studies, sc-244888 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ALKBH4 (D-16) is recommended for detection of ALKBH4 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 ALKBH family members.

ALKBH4 (D-16) is also recommended for detection of ALKBH4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ALKBH4 siRNA (h): sc-89850, ALKBH4 siRNA (m): sc-141021, ALKBH4 shRNA Plasmid (h): sc-89850-SH, ALKBH4 shRNA Plasmid (m): sc-141021-SH, ALKBH4 shRNA (h) Lentiviral Particles: sc-89850-V and ALKBH4 shRNA (m) Lentiviral Particles: sc-141021-V.

Molecular Weight of ALKBH4: 34 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.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.