

DAK (D-15): sc-161516

BACKGROUND

DAK (dihydroxyacetone kinase 2 homolog), also known as NET45, bifunctional ATP-dependent dihydroxyacetone kinase/FAD-AMP lyase (cyclizing), DHA kinase (ATP-dependent dihydroxyacetone kinase), glycerone kinase, FAD-AMP lyase (cyclic FMN forming) or FMN cyclase, is a 575 amino acid protein belonging to the dihydroxyacetone kinase (DAK) family. Existing as a homodimer, DAK catalyzes the formation of FAD to cyclin FMN, as well as the phosphorylation of dihydroxyacetone and splitting of ribonucleoside diphosphate-X compounds. DAK contains one DhaK domain, a DhaL domain, and is encoded by a gene located on human chromosome 11. Chromosome 11 houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

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- Uzcátegui, N.L., et al. 2007. Antiproliferative effect of dihydroxyacetone on *Trypanosoma brucei* bloodstream forms: cell cycle progression, sub-cellular alterations, and cell death. *Antimicrob. Agents Chemother.* 51: 3960-3968.
- Schuchman, E.H. 2007. The pathogenesis and treatment of acid sphingomyelinase-deficient Niemann-Pick disease. *J. Inher. Metab. Dis.* 30: 654-663.
- Bhuiyan, Z.A., et al. 2008. An intronic mutation leading to incomplete skipping of exon-2 in KCNQ1 rescues hearing in Jervell and Lange-Nielsen syndrome. *Prog. Biophys. Mol. Biol.* 98: 319-327.
- Coldren, C.D., et al. 2009. Chromosomal microarray mapping suggests a role for BSX and Neurogranin in neurocognitive and behavioral defects in the 11q terminal deletion disorder (Jacobsen syndrome). *Neurogenetics* 10: 89-95.

CHROMOSOMAL LOCATION

Genetic locus: DAK (human) mapping to 11q12.2; Dak (mouse) mapping to 19 A.

SOURCE

DAK (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DAK of human origin.

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-161516 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DAK (D-15) is recommended for detection of DAK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

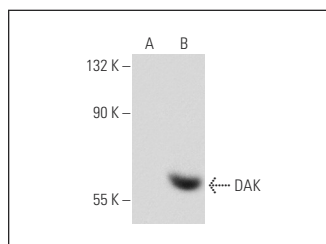
DAK (D-15) is also recommended for detection of DAK in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for DAK siRNA (h): sc-97079, DAK siRNA (m): sc-142869, DAK shRNA Plasmid (h): sc-97079-SH, DAK shRNA Plasmid (m): sc-142869-SH, DAK shRNA (h) Lentiviral Particles: sc-97079-V and DAK shRNA (m) Lentiviral Particles: sc-142869-V.

Molecular Weight of DAK: 59 kDa.

Positive Controls: DAK (h): 293 Lysate: sc-110850, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

DATA



DAK (D-15): sc-161516. Western blot analysis of DAK expression in non-transfected: sc-110760 (A) and human DAK transfected: sc-110850 (B) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

- Goichon, A., et al. 2013. An enteral leucine supply modulates human duodenal mucosal proteome and decreases the expression of enzymes involved in fatty acid β -oxidation. *J. Proteomics* 78: 535-544.

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.

MONOS
Satisfaction
Guaranteed

Try **DAK (A-5): sc-365458** or **DAK (G-5): sc-365984**, our highly recommended monoclonal alternatives to DAK (D-15).