



DBH (8.F.304): sc-58518

BACKGROUND

Dopamine β -hydroxylase (DBH) catalyzes the conversion of dopamine to noradrenaline in the biosynthesis of catecholamines. DBH is selectively expressed in noradrenergic and adrenergic neurons, as well as in neuroendocrine cells, and it serves as a specific protein marker for noradrenergic processes. The active form of DBH is a homotetramer, which is found in the lumen of synaptic vesicles of corresponding nerve cells, where it localizes to both the membrane and cytosol. DBH is induced by nerve growth factor and Insulin growth factor-1 and is regulated by intracellular second messengers protein kinase A, cyclic AMP, diacyl glycerol and Ca^{2+} . Expression of DBH is transcriptionally mediated by Sp1, CREB and AP-1 proteins including c-Fos, c-Jun and JunD.

REFERENCES

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3. McMahon, A., Geertman, R. and Sabban, E.L. 1990. Rat dopamine β -hydroxylase: molecular cloning and characterization of the cDNA and regulation of the mRNA by reserpine. *J. Neurosci. Res.* 25: 395-404.
4. Hwang, O. and Choi, H.J. 1995. Induction of gene expression of the catecholamine-synthesizing enzymes by Insulin-like growth factor-1. *J. Neurochem.* 65: 1988-1996.
5. Kim, H.S., Seo, H., Yang, C., Brunet, J.F. and Kim, K.S. 1998. Noradrenergic-specific transcription of the dopamine β -hydroxylase gene requires synergy of multiple *cis*-acting elements including at least two Phox2a-binding sites. *J. Neurosci.* 18: 8247-8260.
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CHROMOSOMAL LOCATION

Genetic locus: DBH (human) mapping to 9q34.2; Dbh (mouse) mapping to 2 A3.

SOURCE

DBH (8.F.304) is a mouse monoclonal antibody raised against purified DBH from adrenal medulla homogenate of rat origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DBH (8.F.304) is recommended for detection of DBH 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with rabbit, guinea pig, cat or bovine DBH.

Suitable for use as control antibody for DBH siRNA (h): sc-35179, DBH siRNA (m): sc-35180, DBH shRNA Plasmid (h): sc-35179-SH, DBH shRNA Plasmid (m): sc-35180-SH, DBH shRNA (h) Lentiviral Particles: sc-35179-V and DBH shRNA (m) Lentiviral Particles: sc-35180-V.

Molecular Weight of cleaved DBH: 78 kDa.

Molecular Weight of DBH amphiphilic form: 84 kDa.

Positive Controls: PC-12 cell lysate: sc-2250 or rat adrenal gland extract: sc-364802.

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.