

DBH (h): 293T Lysate: sc-159870

BACKGROUND

Dopamine β -hydroxylase (DBH) catalyzes the conversion of dopamine to nor-adrenaline 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

1. Lamouroux, A., et al. 1987. The primary structure of human dopamine β -hydroxylase: insights into the relationship between the soluble and the membrane-bound forms of the enzyme. *EMBO J.* 6: 3931-3937.
2. Kobayashi, K., et al. 1989. Human dopamine β -hydroxylase gene: two mRNA types having different 3'-terminal regions are produced through alternative polyadenylation. *Nucleic Acids Res.* 17: 1089-1102.
3. McMahon, A., et al. 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., et al. 1995. Induction of gene expression of the catecholamine-synthesizing enzymes by Insulin-like growth factor-I. *J. Neurochem.* 65: 1988-1996.
5. Kim, H.S., et al. 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.
6. Swanson, D.J., et al. 1998. AP1 proteins mediate the cAMP response of the dopamine β -hydroxylase gene. *J. Biol. Chem.* 273: 24065-24074.

CHROMOSOMAL LOCATION

Genetic locus: DBH (human) mapping to 9q34.2.

PRODUCT

DBH (h): 293T Lysate represents a lysate of human DBH transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

DBH (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive DBH antibodies. Recommended use: 10-20 μ l per lane.

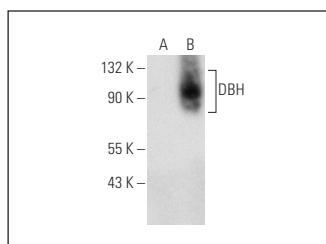
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

DBH (A-9): sc-365710 is recommended as a positive control antibody for Western Blot analysis of enhanced human DBH expression in DBH transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



DBH (A-9): sc-365710. Western blot analysis of DBH expression in non-transfected: sc-117752 (A) and human DBH transfected: sc-159870 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.