

DHS (h): 293T Lysate: sc-177128

BACKGROUND

Deoxyhypusine synthase (DHS) is crucial for the posttranslational formation of hypusine, a modification of a specific lysine residue in eukaryotic initiation factor 5A (eIF5A). Hypusine is formed by posttranslational modifications involving two enzymatic steps catalyzed by DHS and deoxyhypusine hydroxylase (DOHH). eIF5A is essential for eukaryotic cell proliferation. DHS, which belongs to the deoxyhypusine synthase family of proteins, is important for the first step in the hypusine biosynthesis pathway. It acts as a catalyst for the NAD-dependent oxidative cleavage of spermidine and the ensuing transfer of the butylamine moiety of spermidine to the eIF5A protein, to create the intermediate deoxyhypusine residue.

REFERENCES

1. Sommer, M.N., et al. 2004. Screening assay for the identification of deoxyhypusine synthase inhibitors. *J. Biomol. Screen.* 9: 434-438.
2. Huang, J.K., et al. 2004. Molecular cloning of bovine eIF5A and deoxyhypusine synthase cDNA. *DNA Seq.* 15: 26-32.
3. Huang, J.K., et al. 2004. Higher activity of recombinant bovine deoxyhypusine synthase vs. human deoxyhypusine synthase. *Protein Expr. Purif.* 35: 32-38.
4. Molitor, I.M., et al. 2004. Translation initiation factor eIF5A from *Plasmodium falciparum*. *Mol. Biochem. Parasitol.* 137: 65-74.
5. Umland, T.C., et al. 2004. A new crystal structure of deoxyhypusine synthase reveals the configuration of the active enzyme and of an enzyme-NAD inhibitor ternary complex. *J. Biol. Chem.* 279: 28697-28705.
6. Xu, A., et al. 2004. Identification of mRNA that binds to eukaryotic initiation factor 5A by affinity co-purification and differential display. *Biochem. J.* 384: 585-590.
7. Hauber, I., et al. 2005. Identification of cellular deoxyhypusine synthase as a novel target for antiretroviral therapy. *J. Clin. Invest.* 115: 76-85.
8. Nishimura, K., et al. 2005. Independent roles of eIF5A and polyamines in cell proliferation. *Biochem. J.* 385: 779-785.

CHROMOSOMAL LOCATION

Genetic locus: DHPS (human) mapping to 19p13.2.

PRODUCT

DHS (h): 293T Lysate represents a lysate of human DHS transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

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

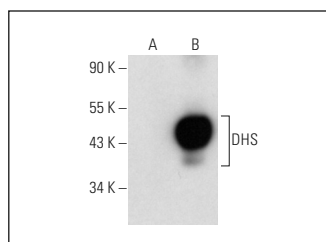
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

DHS (F-10): sc-271871 is recommended as a positive control antibody for Western Blot analysis of enhanced human DHS expression in DHS transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

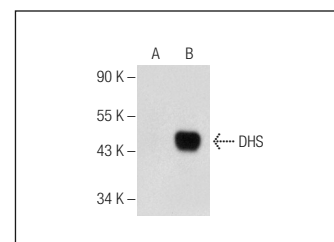
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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



DHS (F-10): sc-271871. Western blot analysis of DHS expression in non-transfected: sc-117752 (A) and human DHS transfected: sc-177128 (B) 293T whole cell lysates.



DHS (D-11): sc-376798. Western blot analysis of DHS expression in non-transfected: sc-117752 (A) and human DHS transfected: sc-177128 (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.