SANTA CRUZ BIOTECHNOLOGY, INC.

NSD3 (E-3): sc-398186

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The deduced 1,437 amino acid NSD3 protein contains two PWWP domains involved in protein-protein interactions, five PHD-type zinc finger motifs found in chromatin-associated proteins, a SAC (SET-associated cys-rich) domain, a SET domain and a C-terminal C5HCH domain. Two NSD3 variants have been identified. The short variant comprised of 645 amino acids, arises from alternative polyadenylation and exon splicing and contains a single PWWP domain. A longer NSD3 variant, which is only expressed in HeLa cells, is comprised of 1,388 amino acid residues. The human WHSC1L1 gene, which encodes the NSD3 protein, shares 68% and 55% identity with mouse Nsd1 and human WHSC1, respectively. Highest expression of NSD3 is observed in brain, heart and skeletal muscle tissues; lower levels of NSD3 expression are observed in the liver and lungs.

REFERENCES

1. Angrand, P.O., et al. 2001. NSD3, a new SET domain-containing gene, maps to 8p12 and is amplified in human breast cancer cell lines. Genomics 74: 79-88.
2. Stec, I., et al. 2001. WHSC1L1, on human chromosome 8p11.2, closely resembles WHSC1 and maps to a duplicated region shared with 4p16.3. Genomics 76: 5-8.
3. Rosati, R., et al. 2002. NUP98 is fused to the NSD3 gene in acute myeloid leukemia associated with t(8;11)(p11.2;p15). Blood 99: 3857-3860.
4. Douglas, J., et al. 2005. Evaluation of NSD2 and NSD3 in overgrowth syndromes. Eur. J. Hum. Genet. 13: 150-153.
5. Tonon, G., et al. 2005. High-resolution genomic profiles of human lung cancer. Proc. Natl. Acad. Sci. USA 102: 9625-9630.

CHROMOSOMAL LOCATION

Genetic locus: WHSC1L1 (human) mapping to 8p11.23; Whsc1l1 (mouse) mapping to 8 A2.

SOURCE

NSD3 (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1396-1420 at the C-terminus of NSD3 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398186 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

NSD3 (E-3) is recommended for detection of NSD3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NSD3 siRNA (h): sc-61235, NSD3 siRNA (m): sc-61236, NSD3 shRNA Plasmid (h): sc-61235-SH, NSD3 shRNA Plasmid (m): sc-61236-SH, NSD3 shRNA (h) Lentiviral Particles: sc-61235-V and NSD3 shRNA (m) Lentiviral Particles: sc-61236-V.

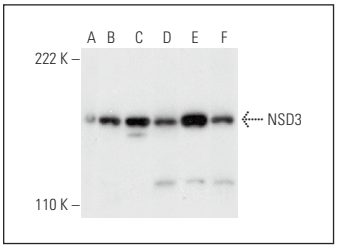
Molecular Weight of NSD3 isoforms 1-4: 162/156/73/155 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, IMR-32 cell lysate: sc-2409 or MCF7 nuclear extract: sc-2149.

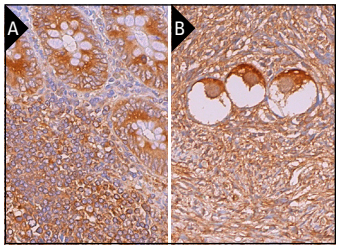
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



NSD3 (E-3): sc-398186. Western blot analysis of NSD3 expression in A-673 (**A**) and MCF7 (**B**) nuclear extracts and IMR-32 (**C**), LNCaP (**D**), HeLa (**E**) and HEK293 (**F**) whole cell lysates.



NSD3 (E-3): sc-398186. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells and lymphoid cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing cytoplasmic staining of follicle cells and ovarian stroma cells and cytoplasmic and nuclear staining of Oocytes (**B**).

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.