SANTA CRUZ BIOTECHNOLOGY, INC.

UTX (D-3): sc-514860

BACKGROUND

The Notch signaling pathway controls cellular interactions important for the specification of a variety of fates in both vertebrates and invertebrates. Key players in the Notch pathway are the TLE genes (for transducin-like enhancer of split, also designated ESG for enhancer of split groucho), which are human homologs of the *Drosophila* groucho gene. UTX (ubiquitously transcribed tetratricopeptide repeat, X chromosome) is a 1,401 amino acid nuclear protein that interacts with TLE1 (transducin-like enhancer of split 1) and, together, these proteins are thought to function as transcriptional repressors for a variety of targets. Expressed from a gene located on the inactive X chromosome, UTX functions as a histone demethylase that is involved in modulating the histone code (via demethylation of lysine residues on Histone H3) and in regulating Hox (homeobox) gene expression. UTX contains one JMJC domain and eight TPR repeats.

REFERENCES

1. Greenfield, A., et al. 1998. The UTX gene escapes X inactivation in mice and humans. Hum. Mol. Genet. 7: 737-742.
2. Grbavec, D., et al. 1999. Groucho/transducin-like enhancer of split (TLE) family members interact with the yeast transcriptional co-repressor SSN6 and mammalian SSN6-related proteins: implications for evolutionary conservation of transcription repression mechanisms. Biochem. J. 337: 13-17.
3. Hong, S., et al. 2007. Identification of JmjC domain-containing UTX and JMJD3 as Histone H3 lysine 27 demethylases. Proc. Natl. Acad. Sci. USA 104: 18439-18444.
4. Lan, F., et al. 2007. A histone H3 lysine 27 demethylase regulates animal posterior development. Nature 449: 689-694.
5. Agger, K., et al. 2007. UTX and JMJD3 are histone H3K27 demethylases involved in HOX gene regulation and development. Nature 449: 731-734.
6. Cho, Y.W., et al. 2007. PTIP associates with MLL3- and MLL4-containing Histone H3 lysine 4 methyltransferase complex. J. Biol. Chem. 282: 20395-20406.

CHROMOSOMAL LOCATION

Genetic locus: KDM6A (human) mapping to Xp11.3; Kdm6a (mouse) mapping to X A1.2.

SOURCE

UTX (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 732-754 within an internal region of UTX of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-514860 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

UTX (D-3) is recommended for detection of UTX 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for UTX siRNA (h): sc-76881, UTX siRNA (m): sc-76882, UTX shRNA Plasmid (h): sc-76881-SH, UTX shRNA Plasmid (m): sc-76882-SH, UTX shRNA (h) Lentiviral Particles: sc-76881-V and UTX shRNA (m) Lentiviral Particles: sc-76882-V.

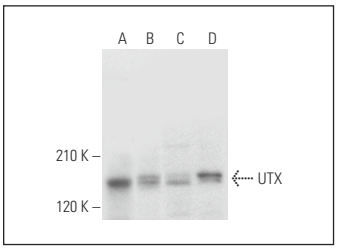
Molecular Weight of UTX: 154 kDa.

Positive Controls: IMR-32 nuclear extract: sc-2148, MCF7 whole cell lysate: sc-2206 or Hep G2 cell lysate: sc-2227.

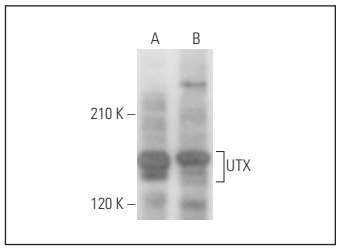
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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.

DATA



UTX (D-3): sc-514860. Western blot analysis of UTX expression in Hep G2 (**A**), MCF7 (**B**) and U-87 MG (**C**) whole cell lysates and IMR-32 nuclear extract (**D**).



UTX (D-3): sc-514860. Western blot analysis of UTX expression in IB4 whole cell lysate (**A**) and mouse testis tissue extract (**B**).

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.