SANTA CRUZ BIOTECHNOLOGY, INC.

UTX (E-8): sc-514859

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

UTX (E-8) 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_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UTX (E-8) is available conjugated to agarose (sc-514859 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514859 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514859 PE), fluorescein (sc-514859 FITC), Alexa Fluor® 488 (sc-514859 AF488), Alexa Fluor® 546 (sc-514859 AF546), Alexa Fluor® 594 (sc-514859 AF594) or Alexa Fluor® 647 (sc-514859 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514859 AF680) or Alexa Fluor® 790 (sc-514859 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514859 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

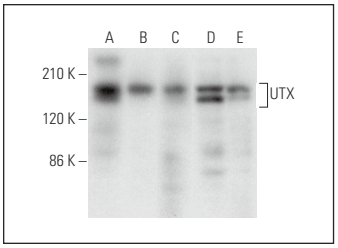
UTX (E-8) is recommended for detection of UTX of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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.

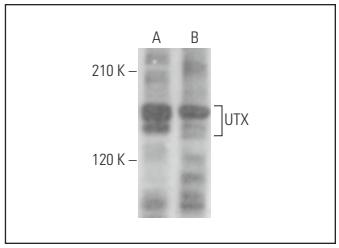
Molecular Weight of UTX: 154 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, U-87 MG cell lysate: sc-2411 or Hep G2 cell lysate: sc-2227.

DATA



UTX (E-8): sc-514859. Western blot analysis of UTX expression in K-562 (**A**), Hep G2 (**B**), MCF7 (**C**) and U-87 MG (**D**) whole cell lysates and IMR-32 nuclear extract (**E**).



UTX (E-8): sc-514859. Western blot analysis of UTX expression in IB4 whole cell lysate (**A**) and mouse testis tissue extract (**B**).

SELECT PRODUCT CITATIONS

1. Lin, C.L., et al. 2019. A KDM6A-KLF10 reinforcing feedback mechanism aggravates diabetic podocyte dysfunction. EMBO Mol. Med. 11: e9828.
2. Koch, J., et al. 2021. KDM6A mutations promote acute cytoplasmic DNA release, DNA damage response and mitosis defects. BMC Mol. Cell Biol. 22: 54.
3. Xiao, J.F., et al. 2022. KDM6A depletion in breast epithelial cells leads to reduced sensitivity to anticancer agents and increased TGFβ activity. Mol. Cancer Res. 20: 637-649.
4. Jiang, J., et al. 2023. Asparagine starvation suppresses histone demethylation through iron depletion. iScience 26: 106425.
5. Shobab, L., et al. 2024. Sex-specific expression of histone lysine demethylases (KDMs) in thyroid cancer. Cancers 16: 1260.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.