

Store at
-20°C

UTX (D3Q1I) Rabbit mAb



#33510

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orders@cellsignal.comEntrez-Gene ID #7403
UniProt ID #015550

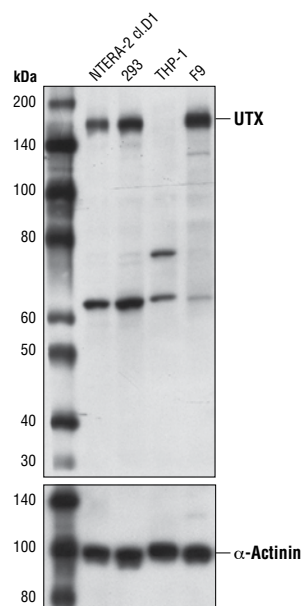
rev. 11/21/17

For Research Use Only. Not For Use In Diagnostic Procedures.**Applications**
W, IP, IHC-P
Endogenous**Species Cross-Reactivity***
H, M, R, Mk**Molecular Wt.**
180 kDa**Isotype**
Rabbit IgG**

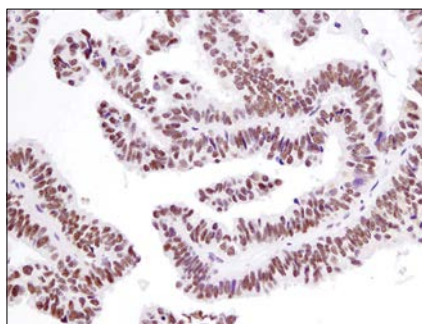
Background: The methylation state of lysine residues in histone proteins is a major determinant of the formation of active and inactive regions of the genome and is crucial for proper programming of the genome during development (1,2). Jumonji C (JmjC) domain-containing proteins represent the largest class of potential histone demethylase proteins (3). The JmjC domain can catalyze the demethylation of mono-, di-, and tri-methyl lysine residues via an oxidative reaction that requires iron and α -ketoglutarate (3). Based on homology, both humans and mice contain at least 30 such proteins, which can be divided into 7 separate families (3). The three members of the UTX/UTY family include the ubiquitously transcribed X chromosome tetratricopeptide repeat protein (UTX), the ubiquitously transcribed Y chromosome tetratricopeptide repeat protein (UTY) and JmjC domain-containing protein 3 (JMJD3) (3). This family of proteins has been shown to demethylate both di- and tri-methyl histone H3 Lys 27 (4-8). The UTX gene escapes X inactivation in females and is ubiquitously expressed (9). UTX functions to regulate HOX gene expression during development (4-6). JMJD3 functions to regulate gene expression in macrophages responding to various inflammatory stimuli and has been shown to be upregulated in prostate cancer (7,8). Both UTX and JMJD3 interact with mixed-lineage leukemia (MLL) complexes 2 and 3, both of which have been shown to methylate histone H3 at Lys4 (6,7). The UTY gene is expressed in most tissues in the male mouse (10).

Specificity/Sensitivity: UTX (D3Q1I) Rabbit mAb recognizes endogenous levels of total UTX protein. This antibody does not cross-react with UTY protein. This antibody also cross-reacts with unidentified proteins of 60 kDa and 70 kDa.

Source/Purification: Monoclonal antibody is produced by immunizing animals with recombinant protein surrounding Ala490 of human UTX protein.



Western blot analysis of extracts from various cell lines using UTX (D3Q1I) Rabbit mAb (upper) and α -Actinin (D6F6) XP[®] Rabbit mAb #6487 (lower). As expected, THP-1 cells are negative for UTX.



Immunohistochemical analysis of paraffin-embedded human ovarian carcinoma using UTX (D3Q1I) Rabbit mAb.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C . Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

| | |
|---|--|
| Western blotting | 1:1000 |
| Immunoprecipitation | 1:200 |
| Immunohistochemistry (Paraffin) | 1:400† |
| Unmasking buffer: | Citrate |
| Antibody diluent: | SignalStain [®] Antibody Diluent #8112 |
| Detection reagent: | SignalStain [®] Boost (HRP, Rabbit) #8114 |
| †Optimal IHC dilutions determined using SignalStain [®] Boost IHC Detection Reagent. | |

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

Background References:

- (1) Kubicek, S. et al. (2006) *Ernst Schering Res Found Workshop*, 1-27.
- (2) Lin, W. and Dent, S.Y. (2006) *Curr Opin Genet Dev* 16, 137-42.
- (3) Klose, R.J. et al. (2006) *Nat Rev Genet* 7, 715-27.
- (4) Agger, K. et al. (2007) *Nature* 449, 731-4.
- (5) Lan, F. et al. (2007) *Nature* 449, 689-94.
- (6) Lee, M.G. et al. (2007) *Science* 318, 447-50.
- (7) De Santa, F. et al. (2007) *Cell* 130, 1083-94.
- (8) Xiang, Y. et al. (2007) *Cell Res* 17, 850-7.
- (9) Greenfield, A. et al. (1998) *Hum Mol Genet* 7, 737-42.
- (10) Greenfield, A. et al. (1996) *Nat Genet* 14, 474-8.

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IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween[®]20 at 4°C with gentle shaking, overnight.

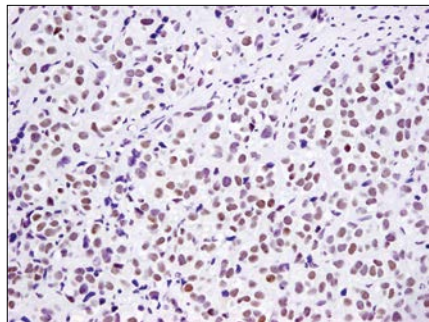
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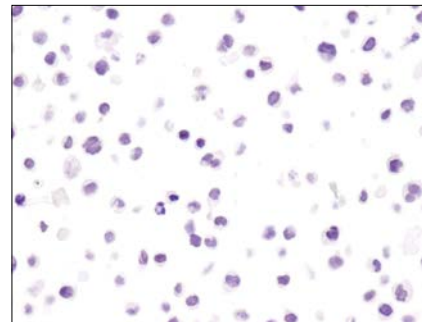
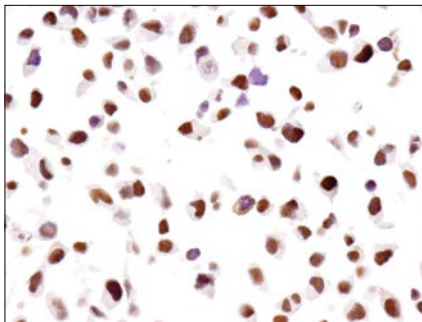
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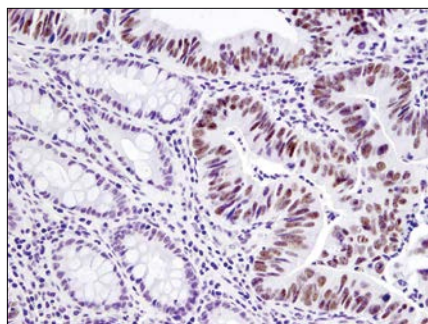
Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Immunohistochemical analysis of paraffin-embedded human breast carcinoma using UTX (D3Q11) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded 293 (left) and THP-1 (right) cell pellets using UTX (D3Q11) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded colon carcinoma using UTX (D3Q11) Rabbit mAb.

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