

METTL3 (D2I6O) Rabbit mAb

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Applications: W, IP	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 70	Source/Isotype: Rabbit IgG	UniProt ID: #Q86U44	Entrez-Gene Id: 56339
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

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

Specificity/Sensitivity

METTL3 (D2I6O) Rabbit mAb recognizes endogenous levels of total METTL3 protein.

Species predicted to react based on 100% sequence homology

Hamster, Pig, Horse

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu297 of human METTL3 protein.

Background

Methyltransferase-like protein 3 (METTL3) and methyltransferase-like protein 14 (METTL14) are the two catalytic subunits of an N6-methyltransferase complex that methylates adenosine residues in RNA (1). Methylation of adenosine residues regulates mRNA splicing, processing, translation efficiency, editing and stability, in addition to regulating primary miRNA processing, and is critical for proper regulation of the circadian clock, embryonic stem cell self-renewal, immune tolerance, response to various stimuli, meiosis and mouse fertility (2,3). In this complex, METTL3 functions as the catalytic methyltransferase subunit and METTL14 functions as the target recognition subunit by binding to RNA (4). In addition, the Wilms' tumor 1-associating protein (WTAP) functions as a regulatory subunit and is required for accumulation of the complex to nuclear speckles, which are sites of RNA processing (5). Several studies suggest a role for this complex in cancer. METTL3 expression is elevated in lung adenocarcinoma where it promotes growth, survival, and invasion of human lung cancer cells (6). In addition, WTAP is overexpressed in a number of different cancers and positively regulates cell migration and invasion in glioblastoma and cholangiocarcinoma (7,8).

Background References

1. Liu, J. et al. (2014) *Nat Chem Biol* 10, 93-5.
2. Yue, Y. et al. (2015) *Genes Dev* 29, 1343-55.
3. Wu, R. et al. (2016) *Mol Biotechnol* 58, 450-9.
4. Wang, X. et al. (2016) *Nature* 534, 575-8.
5. Ping, X.L. et al. (2014) *Cell Res* 24, 177-89.
6. Lin, S. et al. (2016) *Mol Cell* 62, 335-45.
7. Jin, D.I. et al. (2012) *Cancer Sci* 103, 2102-9.
8. Jo, H.J. et al. (2013) *J Gastroenterol* 48, 1271-82.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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