

Virilizer (D4N8B) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, ChIP	H M R Mk	Endogenous	210	Rabbit IgG	#Q69YN4	25962

Product Usage Information

For optimal ChIP results, use 10 μ l of antibody and 10 μ g of chromatin (approximately 4×10^6 cells) per IP. This antibody has been validated using SimpleChIP[®] Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Chromatin IP	1:50

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.

Specificity/Sensitivity

Virilizer (D4N8B) Rabbit mAb recognizes endogenous levels of total virilizer protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro229 of human virilizer 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).

Virilizer is an additional protein subunit of the METTL3/METTL14 N6-methyltransferase complex and is required for methyltransferase activity (9). As part of the WTAP complex, virilizer functions to regulate sex determination in *Drosophila melanogaster* through splicing of Sex-lethal (Sxl) mRNA transcripts (10,11).

Background References

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- Jin, D.I. et al. (2012) *Cancer Sci* 103, 2102-9.
- Jo, H.J. et al. (2013) *J Gastroenterol* 48, 1271-82.
- Schwartz, S. et al. (2014) *Cell Rep* 8, 284-96.
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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 **ChIP:** Chromatin IP

Cross-Reactivity Key

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

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