Revision 9

Store at -20C

#86132

METTL3 (E3F2A) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, IP, IHC-P, ChIP	H M R Mk	Endogenous	70	Rabbit IgG	#Q86U44	56339

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:200 - 1:800
Chromatin IP	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.

For a carrier free (BSA and azide free) version of this product see product #61442.

Specificity/Sensitivity

METTL3 (E3F2A) Rabbit mAb recognizes endogenous levels of total METTL3 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus 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 **W-S:** Simple Western™ **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **ChIP:** Chromatin IP

Cross-Reactivity Key

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

Trademarks and Patents

SimpleChIP is a registered trademark of Cell Signaling Technology, Inc.

XP is a registered trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.