-20C

Store at

#85016





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: W, IP	Reactivity: H Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 235	Source/Isotype: Rabbit IgG	<b>UniProt ID:</b> #O43151	Entrez-Gene Id: 200424
Product Usage Information		<b>Application</b> Western Blotting Immunoprecipitation			<b>Dilution</b> 1:1000 1:100	
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. <i>Do not aliquot the antibody.</i>				
Specificity/Sens	sitivity	TET3 (E2S3C) Rabbit mAb recognizes endogenous levels of total TET3 protein.				
Source / Purific	ation	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly110 of human TET3 protein.				
Background		Methylation of DNA at cytosine residues is a heritable, epigenetic modification that is critical for proper regulation of gene expression, genomic imprinting, and mammalian development (1,2). 5- methylcytosine is a repressive epigenetic mark established <i>de novo</i> by two enzymes, DNMT3a and DNMT3b, and is maintained by DNMT1 (3,4). 5-methylcytosine was originally thought to be passively depleted during DNA replication. However, subsequent studies have shown that Ten-Eleven Translocation (TET) proteins TET1, TET2, and TET3 can catalyze the oxidation of methylated cytosine to 5-hydroxymethylcytosine (5-hmC) (5). Additionally, TET proteins can further oxidize 5-hmC to form 5-formylcytosine (5-fC) and 5-carboxylcytosine (5-caC), both of which are excised by thymine-DNA glycosylase (TDG), effectively linking cytosine oxidation to the base excision repair pathway and supporting active cytosine demethylation (6,7). TET3 plays several key roles in regulating early development and neonatal growth. First, TET3 functions to demethylate DNA in the male pronucleus of the zygote following fertilization (8-10). In addition, TET3 binds to and regulates numerous developmental genes later during development (11). TET2/TET3 deficiency can lead to myeloid cell, B cell, and invariant natural killer T (iNKT) cell malignancies. In Tregs, TET2/TET3 deficiency in mice leads to hyperproliferation and inflammatory disease, with decreased expression of Treg-specific genes and increased expression of genes involved in proliferation and cancer (12,13).				
Background Re	ferences	1. Hermann, A. et al. (2 2. Turek-Plewa, J. and Ja 3. Okano, M. et al. (199 4. Li, E. et al. (1992) <i>Cel</i> 5. Tahiliani, M. et al. (201 6. He, Y.F. et al. (2011) <i>Sc</i> 8. Peat, J.R. et al. (2011) <i>Sc</i> 9. Inoue, A. et al. (2015) 10. Tsukada, Y. et al. (21 11. Xu, Y. et al. (2012) <i>C</i> 12. Nakatsukasa, H. et 13. Yue, X. et al. (2019)	004) <i>Cell Mol Life</i> 9 agodziński, P.P. (20 9) <i>Cell</i> 99, 247-57. 1/69, 915-26. 009) <i>Science</i> 323, 1303- <i>cience</i> 333, 1300-3. ) <i>Cell Rep</i> 9, 1990-2 0) <i>Cell Rep</i> 9, 1990-2 015) <i>Sci Rep</i> 5, 158 <i>Cell</i> 151, 1200-13. al. (2019) <i>Int Immu</i> <i>Nat Commun</i> 10, 2	5ci 61, 2571-87. 05) <i>Cell Mol Biol Lett</i> 10, 30-5. 7. 2000. 70. 76. 200131, 335-47. 2011.	631-47.	
Species Reactiv	ity	Species reactivity is det	termined by testin	g in at least one approve	ed application (e.g.,	western blot).
Western Blot B	uffer	IMPORTANT: For weste TBS, 0.1% Tween® 20 a	ern blots, incubate at 4°C with gentle s	membrane with diluted shaking, overnight.	primary antibody ir	ו 5% w/v BSA, 1X
Applications Ke	ey .	W: Western Blotting IP	: Immunoprecipita	ition		
Cross-Reactivit	у Кеу	H: Human Mk: Monkey	/			

Trademarks and Patents	Cell Signaling Technology is a 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 purpose, 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 product or services, (c) not alter or remove from 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.