Revision 1

#79468 Store at +4C

TET2 (D6C7K) Rabbit mAb (PE Conjugate)

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:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	M	Endogenous	Rabbit IgG	#Q4JK59	214133

Product Usage Information

Application	Dilution
Flow Cytometry (Fixed/Permeabilized)	1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

TET2 (D6C7K) Rabbit mAb (PE Conjugate) recognizes endogenous levels of total TET2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val1640 of Mouse TET2 protein.

Description

This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometric analysis in mouse cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated TET2 (D6C7K) Rabbit mAb #36449.

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 de novo 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). TET2 is the most frequently mutated gene in myeloid dysplastic syndrome (MDS), a dysplasia of myeloid, megakaryocytic, and/or erythroid cell lineages, of which 30% progress to acute myeloid leukemia (AML) (8, 9). It is also mutated in diffuse large B-cell lymphoma (10). TET2 protein expression is often reduced in solid tumors such as prostate cancer, melanoma, and oral squamous cell carcinoma (11-13).

Background References

1. Hermann, A. et al. (2004) *Cell Mol Life Sci* 61, 2571-87.
2. Turek-Plewa, J. and Jagodziński, P.P. (2005) *Cell Mol Biol Lett* 10, 631-47.
3. Okano, M. et al. (1999) *Cell* 99, 247-57.
4. Li, E. et al. (1992) *Cell* 69, 915-26.
5. Tahiliani, M. et al. (2009) *Science* 324, 930-5.
6. He, Y.F. et al. (2011) *Science* 333, 1303-7.
7. Ito, S. et al. (2011) *Science* 333, 1300-3.
8. Langemeijer, S.M. et al. (2009) *Nat Genet* 41, 838-42.
9. Yamazaki, J. et al. (2012) *Epigenetics* 7, 201-7.
10. Asmar, F. et al. (2013) *Haematologica* 98, 1912-20.
11. Nickerson, M.L. et al. (2013) *Hum Mutat* 34, 1231-41.
12. Lian, C.G. et al. (2012) *Cell* 150, 1135-46.
13. Jäwert, F. et al. (2013) *Anticancer Res* 33, 4325-8.

Species Reactivity

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

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

M: Mouse

Trademarks and Patents

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.