

#8695 Store at +4C

Phospho-p53 (Ser15) (16G8) Mouse mAb (Alexa Fluor® 647 Conjugate)



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	H	Endogenous	Mouse IgG1	#P04637	7157

Product Usage Information

Application

Flow Cytometry (Fixed/Permeabilized)

Dilution

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

Phospho-p53 (Ser15) (16G8) Mouse mAb (Alexa Fluor® 647 Conjugate) detects endogenous levels of p53 only when phosphorylated at Ser15. The antibody does not cross-react with p53 phosphorylated at other sites.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser15 of human p53 protein.

Description

This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct flow cytometry and immunofluorescent analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated Phospho-p53 (Ser15) (16G8) Mouse mAb #9286.

Background

The p53 tumor suppressor protein plays a major role in cellular response to DNA damage and other genomic aberrations. Activation of p53 can lead to either cell cycle arrest and DNA repair or apoptosis (1). p53 is phosphorylated at multiple sites *in vivo* and by several different protein kinases *in vitro* (2,3). DNA damage induces phosphorylation of p53 at Ser15 and Ser20 and leads to a reduced interaction between p53 and its negative regulator, the oncoprotein MDM2 (4). MDM2 inhibits p53 accumulation by targeting it for ubiquitination and proteasomal degradation (5,6). p53 can be phosphorylated by ATM, ATR, and DNA-PK at Ser15 and Ser37. Phosphorylation impairs the ability of MDM2 to bind p53, promoting both the accumulation and activation of p53 in response to DNA damage (4,7). Chk2 and Chk1 can phosphorylate p53 at Ser20, enhancing its tetramerization, stability, and activity (8,9). p53 is phosphorylated at Ser392 *in vivo* (10,11) and by CAK *in vitro* (11). Phosphorylation of p53 at Ser392 is increased in human tumors (12) and has been reported to influence the growth suppressor function, DNA binding, and transcriptional activation of p53 (10,13,14). p53 is phosphorylated at Ser6 and Ser9 by CK1δ and CK1ε both *in vitro* and *in vivo* (13,15). Phosphorylation of p53 at Ser46 regulates the ability of p53 to induce apoptosis (16). Acetylation of p53 is mediated by p300 and CBP acetyltransferases. Inhibition of deacetylation suppressing MDM2 from recruiting HDAC1 complex by p19 (ARF) stabilizes p53. Acetylation appears to play a positive role in the accumulation of p53 protein in stress response (17). Following DNA damage, human p53 becomes acetylated at Lys382 (Lys379 in mouse) *in vivo* to enhance p53-DNA binding (18). Deacetylation of p53 occurs through interaction with the SIRT1 protein, a deacetylase that may be involved in cellular aging and the DNA damage response (19).

Background References

- Levine, A.J. (1997) *Cell* 88, 323-31.
- Meek, D.W. (1994) *Semin Cancer Biol* 5, 203-10.
- Milczarek, G.J. et al. (1997) *Life Sci* 60, 1-11.
- Shieh, S.Y. et al. (1997) *Cell* 91, 325-34.
- Chehab, N.H. et al. (1999) *Proc Natl Acad Sci U S A* 96, 13777-82.
- Honda, R. et al. (1997) *FEBS Lett* 420, 25-7.
- Tibbetts, R.S. et al. (1999) *Genes Dev* 13, 152-7.
- Shieh, S.Y. et al. (1999) *EMBO J* 18, 1815-23.
- Hirao, A. et al. (2000) *Science* 287, 1824-7.
- Hao, M. et al. (1996) *J Biol Chem* 271, 29380-5.
- Lu, H. et al. (1997) *Mol Cell Biol* 17, 5923-34.
- Ullrich, S.J. et al. (1993) *Proc Natl Acad Sci U S A* 90, 5954-8.
- Kohn, K.W. (1999) *Mol Biol Cell* 10, 2703-34.
- Lohrum, M. and Scheidtmann, K.H. (1996) *Oncogene* 13, 2527-39.
- Knippschild, U. et al. (1997) *Oncogene* 15, 1727-36.
- Oda, K. et al. (2000) *Cell* 102, 849-62.
- Ito, A. et al. (2001) *EMBO J* 20, 1331-40.

18. Sakaguchi, K. et al. (1998) *Genes Dev* 12, 2831-41.
19. Solomon, J.M. et al. (2006) *Mol Cell Biol* 26, 28-38.
-

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	H: Human
Trademarks and Patents	<p>Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.</p> <p>This product is provided under an intellectual property license from Life Technologies Corporation. The transfer of this product is conditioned on the buyer using the purchased product solely in research conducted by the buyer, excluding contract research or any fee for service research, and the buyer must not (1) use this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; or (c) manufacturing or quality assurance or quality control, and/or (2) sell or transfer this product or its components for resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@lifetech.com.</p> <p>All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.</p>
Limited Uses	<p>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.</p> <p>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.</p>