

Store at
-20°C

#81010

PhosphoPlus® RIP3 (Thr231/Ser232) Antibody Duet



Support: +1-978-867-2388 (U.S.)
www.cellsignal.com/support

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

Entrez-Gene ID #56532
UniProt ID #Q9QZL0

New 04/20

For Research Use Only. Not For Use In Diagnostic Procedures.

Products Included	Product #	Quantity	Mol. Wt.	Isotype
Phospho-RIP3 (Thr231/Ser232) (E7S1R) Rabbit mAb	91702	100 µl	46-62 kDa	Rabbit IgG
RIP3 (D8J3L) Rabbit mAb	15828	100 µl	46-62 kDa	Rabbit IgG

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions and additional application protocols.

Description: PhosphoPlus® Duets from Cell Signaling Technology (CST) provide a means to assess protein activation status. Each Duet contains an activation-state and total protein antibody to your target of interest. These antibodies have been selected from CST's product offering based upon superior performance in specified applications.

Background: The receptor-interacting protein (RIP) family of serine-threonine kinases (RIP, RIP2, RIP3, and RIP4) are important regulators of cellular stress that trigger pro-survival and inflammatory responses through the activation of NF-κB, as well as pro-apoptotic pathways (1). In addition to the kinase domain, RIP contains a death domain responsible for interaction with the death domain receptor Fas and recruitment to TNF-R1 through interaction with TRADD (2,3). RIP-deficient cells show a failure in TNF-mediated NF-κB activation, making the cells more sensitive to apoptosis (4,5). RIP also interacts with TNF-receptor-associated factors (TRAFs) and can recruit IKKs to the TNF-R1 signaling complex via interaction with NEMO, leading to IκB phosphorylation and degradation (6,7). Overexpression of RIP induces both NF-κB activation and apoptosis (2,3). Caspase-8-dependent cleavage of the RIP death domain can trigger the apoptotic activity of RIP (8).

Receptor-interacting protein 3 (RIP3) was originally found to interact with RIP and the TNF receptor complex to induce apoptosis and activation of NF-κB (9,10). It has subsequently been shown that the association between RIP and RIP3 is a key component of a signaling pathway that results in programmed necrosis (necroptosis), a necrotic-like cell death induced by TNF in the presence of caspase inhibitors (11-13). RIP3 is phosphorylated at Ser227 and targets the phosphorylation of mixed lineage kinase domain-like protein (MLKL), which is critical for necroptosis (14). In mice, RIP3 is phosphorylated at Thr231 and Ser232, leading to association with MLKL and necroptosis (15).

Specificity/Sensitivity: Phospho-RIP3 (Thr231/Ser232) (E7S1R) Rabbit mAb recognizes endogenous levels of RIP3 protein only when phosphorylated at Thr231/Ser232. This antibody may not recognize RIP3 when only singly phosphorylated at Thr231 or Ser232. RIP3 (D8J3L) Rabbit mAb recognizes endogenous levels of total RIP3 protein from mouse and rat.

Source/Purification: Monoclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr231/Ser232 of mouse RIP3 protein and a synthetic peptide corresponding to residues surrounding His411 of mouse RIP3 protein.

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 product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

- (1) Meylan, E. and Tschopp, J. (2005) *Trends Biochem Sci* 30, 151-9.
- (2) Hsu, H. et al. (1996) *Immunity* 4, 387-96.
- (3) Stanger, B.Z. et al. (1995) *Cell* 81, 513-23.
- (4) Ting, A.T. et al. (1996) *EMBO J* 15, 6189-96.
- (5) Kelliher, M.A. et al. (1998) *Immunity* 8, 297-303.
- (6) Devin, A. et al. (2000) *Immunity* 12, 419-29.
- (7) Zhang, S.Q. et al. (2000) *Immunity* 12, 301-11.
- (8) Lin, Y. et al. (1999) *Genes Dev* 13, 2514-26.
- (9) Yu, P.W. et al. (1999) *Curr Biol* 9, 539-42.
- (10) Sun, X. et al. (1999) *J Biol Chem* 274, 16871-5.
- (11) Zhang, D.W. et al. (2009) *Science* 325, 332-6.
- (12) He, S. et al. (2009) *Cell* 137, 1100-11.
- (13) Cho, Y.S. et al. (2009) *Cell* 137, 1112-23.
- (14) Sun, L. et al. (2012) *Cell* 148, 213-27.
- (15) Chen, W. et al. (2013) *J Biol Chem* 288, 16247-61.

Thank you for your recent purchase. If you would like to provide a review visit www.cellsignal.com/comments.

www.cellsignal.com

© 2020 Cell Signaling Technology, Inc.

PhosphoPlus and Cell Signaling Technology are trademarks of Cell Signaling Technology, Inc.

Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected **Species** enclosed in parentheses are predicted to react based on 100% homology.