

Store at
-20°C

PhosphoPlus® Bad (Ser112) Antibody Duet

#8223



Cell Signaling
TECHNOLOGY®

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Entrez-Gene ID #572
UniProt ID #Q92934

New 06/18

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

Products Included	Product #	Quantity	Mol. Wt.	Isotype/Source
Phospho-Bad (S112) (40A9) Rabbit mAb	5284	100 µl	23 kDa	Rabbit IgG
Bad (D24A9) Rabbit mAb	9239	100 µl	23 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: Bad is a proapoptotic member of the Bcl-2 family that promotes cell death by displacing Bax from binding to Bcl-2 and Bcl-xL (1,2). Survival factors, such as IL-3, inhibit the apoptotic activity of Bad by activating intracellular signaling pathways that result in the phosphorylation of Bad at Ser112 and Ser136 (2). Phosphorylation at these sites promotes binding of Bad to 14-3-3 proteins to prevent an association between Bad with Bcl-2 and Bcl-xL (2). Akt phosphorylates Bad at Ser136 to promote cell survival (3,4). Bad is phosphorylated at Ser112 both *in vivo* and *in vitro* by p90RSK (5,6) and mitochondria-anchored PKA (7). Phosphorylation at Ser155 in the BH3 domain by PKA plays a critical role in blocking the dimerization of Bad and Bcl-xL (8-10).

Specificity/Sensitivity: Bad (D24A9) Rabbit mAb detects endogenous levels of total Bad protein. The antibody does not cross-react with related proteins. Phospho-Bad (Ser112) (40A9) Rabbit mAb detects endogenous levels of Bad only when phosphorylated at Ser112. The Ser112 nomenclature is based upon the mouse sequence. The analogous phosphorylation site is Ser75 in human and Ser113 in rat. This antibody does not detect Bad phosphorylated at other sites, nor does it detect related family members.

Source/Purification: Monoclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro102 of human Bad protein and a phosphopeptide corresponding to residues surrounding Ser112 of mouse Bad 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.*

Background References:

- (1) Yang, E. et al. (1995) *Cell* 80, 285-291.
- (2) Zha, J. et al. (1996) *Cell* 87, 619-628.
- (3) Datta, S.R. et al. (1997) *Cell* 91, 231-241.
- (4) Peso, L. et al. (1997) *Science* 278, 687-689.
- (5) Bonni, A. et al. (1999) *Science* 286, 1358-1362.
- (6) Tan, Y. et al. (1999) *J. Biol. Chem.* 274, 34859-34867.
- (7) Harada, H. et al. (1999) *Mol. Cell* 3, 413-422.
- (8) Tan, Y. et al. (2000) *J. Biol. Chem.* 275, 25865-25869.
- (9) Lizcano, J. et al. (2000) *Biochem. J.* 349, 547-557.
- (10) Datta, S. et al. (2000) *Mol. Cell* 6, 41-51.

U.S. Patent No. 7,429,487, foreign equivalents, and child patents deriving therefrom.

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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.