

#11927 Store at -20°C

Phospho-IRAK4 (Thr345/Ser346) (D6D7) Rabbit mAb


Cell Signaling
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	55	Rabbit IgG	#Q9NWZ3	51135

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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.

Specificity / Sensitivity

Phospho-IRAK4 (Thr345/Ser346) (D6D7) Rabbit mAb recognizes endogenous levels of IRAK4 protein when phosphorylated at Thr345 and Ser346. This antibody shows slight reactivity with IRAK4 when singly phosphorylated at Ser346. It does not cross-react with IRAK4 singly phosphorylated at Thr345.

Species predicted to react based on 100% sequence homology:

Mouse, Rat, Bovine, Dog

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr345/Ser346 of human IRAK4 protein.

Background

Interleukin-1 (IL-1) receptor-associated kinase (IRAK) is a serine/threonine-specific kinase that can be coprecipitated in an IL-1-inducible manner with the IL-1 receptor (1). The mammalian family of IRAK molecules contains four members (IRAK1, IRAK2, IRAK3/IRAK-M, and IRAK4). The binding of IL-1 to IL-1 receptor type I (IL-1RI) initiates the formation of a complex that includes IL-1RI, AcP, MyD88, and IRAKs (2). IRAK undergoes autophosphorylation shortly after IL-1 stimulation. The subsequent events involve IRAK dissociation from the IL-1RI complex, its ubiquitination, and its association with two membrane-bound proteins: TAB2 and TRAF6. The resulting IRAK-TRAF6-TAB2 complex is then released into the cytoplasm where it activates protein kinase cascades, including TAK1, IKKs, and the stress-activated kinases (3).

Upon IL-1R/Toll-Like Receptor ligation, IRAK1 and IRAK4 are rapidly recruited to the receptor by the adaptor MyD88 (4). IRAK1 is phosphorylated by IRAK4 at Thr209 and Thr387 (5), followed by sequential autohyperphosphorylation in various domains.

Background References

1. Dinarello, C.A. (1996) *Blood* 87, 2095-147.
2. Takaesu, G. et al. (2001) *Mol Cell Biol* 21, 2475-84.
3. Janssens, S. and Beyaert, R. (2003) *Mol Cell* 11, 293-302.
4. Gottipati, S. et al. (2008) *Cell Signal* 20, 269-76.
5. Kollwe, C. et al. (2004) *J Biol Chem* 279, 5227-36.

Species Reactivity

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

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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