Revision 1

Store at -20C

#14241

TAB3 (D5J7D) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	82	Rabbit IgG	#Q8N5C8	257397

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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

TAB3 (D5J7D) Rabbit mAb recognizes endogenous levels of total TAB3 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg375 of human TAB3 protein.

Background

TAK1 is a mitogen-activated protein kinase kinase kinase activated by TGF-β and various pro-inflammatory signals (1,2). *In vivo*, TAK1 activation requires its association with TAK1 binding protein 1 (TAB1), which triggers TAK1 autophosphorylation at Thr184 and Thr187 (3,4). The TAB2 adaptor protein links TAK1 with TRAF6 to mediate TAK1 activation following IL-1 stimulation (5). Once activated, TAK1 phosphorylates the MAPK kinases MKK4 and MKK3/6, which activate JNK and p38 MAPK, respectively. TAK1 and TRAF6 also activate the NF-κB pathway by phosphorylating the NF-κB inducing kinase (NIK) to trigger subsequent activation of IKK (2,6). In addition to TAK1, TAB1 interacts with and activates p38α MAPK (7). Targeted disruption of the TAB1 gene in mice causes a drastic reduction in TAK1 activity and leads to embryonic lethality (8).
TAK1-binding protein 3 (TAB3) is an additional binding partner for TAK1 and appears to be functionally redundant to TAB2 protein (9,10). The carboxy-terminal zinc finger domains in TAB2 and TAB3 bind to lysine 63-linked polyubiquitin chains within target proteins, including TRAF6, IKKγ, and RIP, which results in activation of IKK (11). Research studies also indicate that TAB2 and TAB3 proteins negatively regulate autophagy through interaction with beclin-1 (12,13).

Background References

1. Yamaguchi, K. et al. (1995) *Science* 270, 2008-11.
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3. Shibuya, H. et al. (1996) *Science* 272, 1179-82.
4. Sakurai, H. et al. (2000) *FEBS Lett* 474, 141-5.
5. Takaesu, G. et al. (2000) *Mol Cell* 5, 649-58.
6. Wang, C. et al. (2001) *Nature* 412, 346-51.
7. Ge, B. et al. (2002) *Science* 295, 1291-4.
8. Komatsu, Y. et al. (2002) *Mech Dev* 119, 239-49.
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10. Jin, G. et al. (2004) *Proc Natl Acad Sci U S A* 101, 2028-33.
11. Kanayama, A. et al. (2004) *Mol Cell* 15, 535-48.
12. Takaesu, G. et al. (2012) *J Biochem* 151, 157-66.
13. Criollo, A. et al. (2011) *EMBO J* 30, 4908-20.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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