Technical Data Sheet

Purified Mouse anti-TBK1 (pS172)

Product Information

Material Number:	**558397**
Alternate Name:	T2K, NAK
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	J133-1171
Immunogen:	Phosphorylated Human TBK1
Isotype:	Mouse IgG2b, κ
Reactivity:	QC Testing: Human Predicted: Mouse
Target MW:	80 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

NF-κB is a ubiquitously expressed transcription factor that regulates many cytokine and Ig genes. It is involved in immune, inflammatory, viral, and acute phase responses. In most cells, NF-κB is sequestered in an inactive cytoplasmic form via interactions with the inhibitory proteins IκBα, IκBβ, and IκBε. Stimulation induces the release, activation, and nuclear translocation of NF-κB. Release of NF-κB results from the phosphorylation and proteolytic degradation of the IκB proteins. Two cytokine-inducible IκB kinases (IKKα and IKKβ) phosphorylate and target the IκB proteins for degradation via the ubiquitin pathway. IKKγ/NEMO, a third member of the IKK complex, functions as a regulatory subunit and interacts directly with IKKβ. TBK1 (TANK-binding kinase 1, also known as T2K or NAK), a protein of 729 amino acids, is another member of the IKK family of kinases regulating NF-κB downstream of the tumor necrosis factor and Toll-like receptor pathways. TBK1 forms a complex with the adaptor proteins TANK (TRAF-associated NF-κB activator) and TRAF2 (TNF-receptor-associated factor 2), and this oligomer is required for activation and phosphorylation of TBK1 at serine 172 (S172).

The J133-1171 monoclonal antibody recognizes the phosphorylated S172 of human TBK1.

Western blot analysis of TBK1 (pS172) fusion protein. *Lysates from control 293 fetal kidney cell line (left panel) and transfected 293T/IRF-7/TBK-1 cells (right panel) were probed with purified mouse anti-TBK1 (pS172) monoclonal antibody at concentrations of 0.0312 (lanes 1 and 4), 0.0156 (lanes 2 and 5), and 0.0078 µg/ml (lanes 3 and 6). TBK1-GFP fusion protein is identified as a band of 115 kDa in the transfected cells, which can be completely removed by treatment with lambda protein phosphatase (data not shown). The molecular weight of native human TBK1 protein has been reported to be 80 kDa.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

Western blot	Routinely Tested

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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Kishore N, Huynh QK, Mathialagan S, et al. IKK-i and TBK-1 are enzymatically distinct from the homologous enzyme IKK-2: comparative analysis of recombinant human IKK-i, TBK-1, and IKK-2.. *J Biol Chem.* 2002; 277(16):13840-13847. (Biology)

Viatour P, Merville M-P, Bours V, Chariot A. Phosphorylation of NF-kappaB and IkappaB proteins: implications in cancer and inflammation. *Trends Biochem Sci.* 2005; 30(1):43-52. (Biology)