Technical Data Sheet

Purified Mouse Anti-Human Nek2

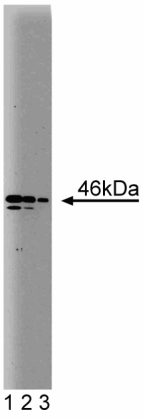
Product Information

Material Number:	**610593**
Alternate Name:	Nima Related Kinase 2
Size:	50 µg
Concentration:	250 µg/ml
Clone:	20/Nek2
Immunogen:	Human Nek2 aa. 244-444
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	46 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

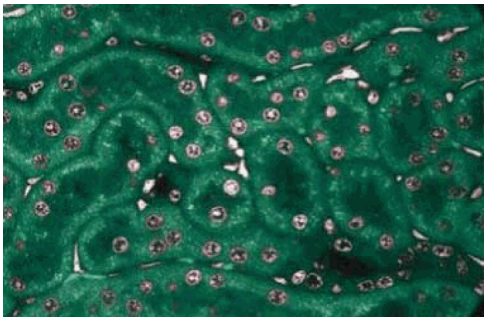
Description

Reversible protein phosphorylation is critical for progression through the cell cycle and mitosis. In *Aspergillus nidulans*, the *nima* gene (**n**ever **i**n **m**itosis) encodes a protein kinase that is essential for mitosis. Three human genes (*nek1, 2,* and *3* [**N**ima-**r**elated **k**inase]) with significant homology to the *A. nidulans nima* have been reported. The *nek2* gene encodes a protein of 445 amino acids and, like its fungal homolog, its expression is regulated throughout the cell cycle. In Hela cells, Nek2 activity and expression are low during M and G1 phases of the cell cycle. However, both parameters increase during S phase and mitosis. In addition, Nek2 phosphorylates protein substrates exclusively at serine and threonine residues. Thus, like its fungal homolog, Nek2 may be a crucial element in controlling the cell's entry into S phase and mitosis.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of Nek2 on a Jurkat cell lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the anti- human Nek2 antibody.*



Immunofluorescence staining of rabbit kidney.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunohistochemistry-formalin (antigen retrieval required)	Tested During Development
Immunoprecipitation	Not Recommended

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Fry AM, Schultz SJ, Bartek J, Nigg EA. Substrate specificity and cell cycle regulation of the Nek2 protein kinase, a potential human homolog of the mitotic regulator NIMA of Aspergillus nidulans. *J Biol Chem.* 1995; 270(21):12899-12905.(Biology)

Schultz SJ, Fry AM, Sutterlin C, Ried T, Nigg EA. Cell cycle-dependent expression of Nek2, a novel human protein kinase related to the NIMA mitotic regulator of Aspergillus nidulans. *Cell Growth Differ.* 1994; 5(6):625-635.(Biology)