Technical Data Sheet

Purified Mouse Anti-Chk2

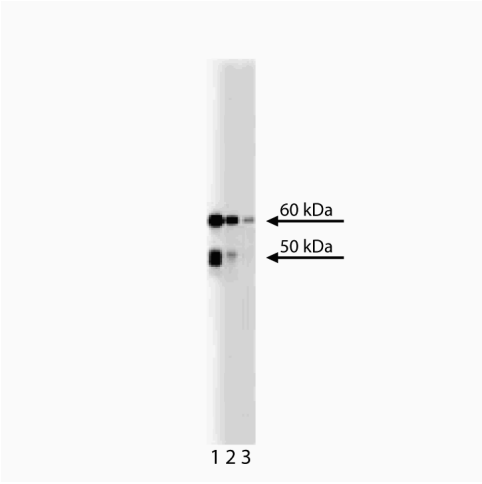
Product Information

Material Number:	**611571**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	19/Chk2
Immunogen:	Mouse Chk2 aa. 31-234
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Mouse Tested in Development: Human, Rat
Target MW:	60 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

The cell cycle is regulated by multiple checkpoints that determine cell fate. Such checkpoints ensure that DNA replication and chromosomal segregation are completed with high fidelity. When DNA is damaged, specific kinases and phosphatases, key components of cell cycle checkpoints, function to arrest the cell cycle and provide the necessary time for DNA repair. For example, DNA damage induces arrest of the cell cycle at the G2 checkpoint via Wee1-mediated inhibitory phosphorylation of the kinase Cdc2. Inhibition is relieved by the Cdc25C phosphatase via Cdc2 dephosphorylation. In turn, the Chk1 and Chk2 protein kinases phosphorylate and inhibit Cdc25C, thus preventing activation of the Cdc2-cyclin B complex and entry into mitosis. Chk2, the human homolog of *S. cerevisiae* Rad53 and *S. pombe* Cds1, contains a C-terminal kinase domain, an N-terminal regulatory region that is rich in TQ and SQ pairs, and a forked head-associated domain (FHA) which is found in other cell cycle kinases. Chk2 is expressed during late G1 to M phase and is found in the nucleoplasm. Thus, Chk1 and Chk2 activity may be an important checkpoint that inhibits entry into mitosis in response to DNA damage.

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 Chk2 on RSV-3T3 cell lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of anti-Chk2.*

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

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)

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

Matsuoka S, Huang M, Elledge SJ. Linkage of ATM to cell cycle regulation by the Chk2 protein kinase. *Science.* 1998; 282(5395):1893-1897.(Biology)
Tominaga K, Morisaki H, Kaneko Y, et al. Role of human Cds1 (Chk2) kinase in DNA damage checkpoint and its regulation by p53. *J Biol Chem.* 1999; 274(44):31463-31467.(Biology)