Technical Data Sheet

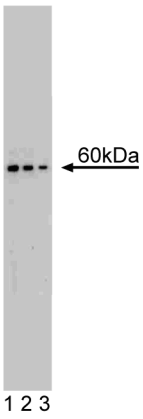
Purified Mouse Anti-p70 [S6K]

Product Information

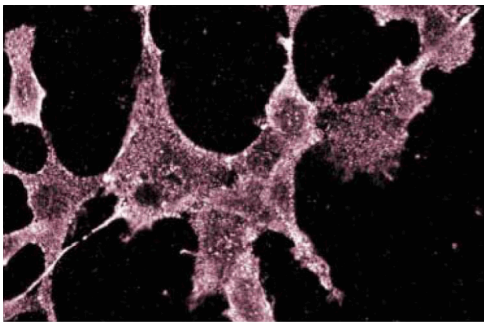
Material Number:	**611261**
Alternate Name:	p70 S6 Kinase
Size:	150 µg
Concentration:	250 µg/ml
Clone:	16/p70[s6k]
Immunogen:	Rat p70 [S6K] aa. 2-121
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat Tested in Development: Mouse, Human
Target MW:	60-70 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Increased protein synthesis, an obligatory step in cell proliferation, is regulated by the phosphorylation of a number of translational components, such as ribosomal protein S6. p70 S6 Kinase (p70 [S6K]), a cytosolic kinase that is primarily responsible for S6 phosphorylation, belongs to a family of at least six S6 kinases. p70 [S6K] and p85 [S6K] are two isoforms of the same kinase. Although they are encoded by the same gene, p80 [S6K] contains a 23 amino acid N-terminal extension that serves as a nuclear localization sequence. These kinases are located in a p21 ras-independent signaling pathway and are regulated by Ser/Thr phosphorylation in response to mitogenic stimulation. Activation of p70 [S6K] requires sequential phosphorylations within the autoinhibitory domain and at Thr 389. p70 [S6K] associates with PDK-1 and PKCζ to form a possible PI3-K signaling complex. The immunosuppressive agent rapamycin forms an intracellular complex with FKBP12 and FRAP (RAFT1) that inhibits phosphorylation of p70 [S6K] at Thr 389 and, in turn, prevents enzyme activation. Thus, p70 [S6K] is an important regulator of cell proliferation and a potential target of agents that modify the immune and proliferative responses. p70 [S6K] has been reported to be observable migrating within a range of 60-70 kD by western blotting.



Western blot analysis of p70 [S6K] on a rat liver lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1: 1000 dilution of the mouse anti-p70[S6K] antibody.*



Immunofluorescence staining of RSV-3T3 cells.

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

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611467	Rat Liver Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	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

Brennan P, Babbage JW, Thomas G, Cantrell D. p70(s6k) integrates phosphatidylinositol 3-kinase and rapamycin-regulated signals for E2F regulation in T lymphocytes. *Mol Biol Cell.* 1999; 19(7):4729-4738.(Biology)

Johanson SO, Naccache PA, Crouch MF. A p85 subunit-independent p110alpha PI 3-kinase colocalizes with p70 S6 kinase on actin stress fibers and regulates thrombin-stimulated stress fiber formation in swiss 3T3 cells. *Exp Cell Res.* 1999; 10(1):223-233.(Biology)

Ming XF, Burgering BM, Wennstrom S. Activation of p70/p85 S6 kinase by a pathway independent of p21ras. *Nature.* 1994; 371(6496):426-429.(Biology)

Romanelli A, Martin KA, Toker A, Blenis J. p70 S6 kinase is regulated by protein kinase Czeta and participates in a phosphoinositide 3-kinase-regulated signalling complex. *Mol Cell Biol.* 1999; 19(4):2921-2928.(Biology)