Technical Data Sheet

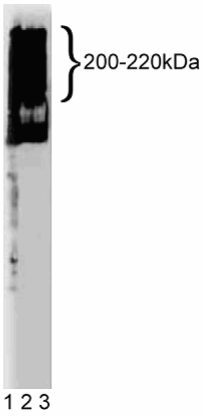
Purified Mouse Anti-MAP4

Product Information

Material Number:	**611026**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	18/MAP4
Immunogen:	Human MAP4 aa. 583-702
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	200-220 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

The microtubule (MT) cytoskeleton functions in cytoplasmic organization, cellular movement, determination of cell polarity, intracellular transport, and chromosome segregation. Dynamic instability, continuous cycles of MT assembly (stabilization) and disassembly, mediates MT participation in these events. The function of MTs, particularly stabilization, is regulated by **M**T-**a**ssociated **p**roteins (MAPs). A subfamily of MAPs, called AP-MAPs (assembly promoting MAPs), includes tau, MAP2, and MAP4. These proteins are classified as type II MAPs and contain a C-terminal MT binding domain with 3 to 5 imperfect repeats of an 18 amino acid motif. While tau and MAP2 are specifically expressed in neuronal cells, MAP4 is the major MAP of nonneuronal mammalian cells. MAP activity and interaction with MTs are regulated by MARK (MAP/MT affinity-regulating kinase) and mapmodulin. MARK-mediated phosphorylation of MAPs on their homologous KXGS motifs results in detachment of MAPs from MTs and MT disruption. In addition, mapmodulin tightly interacts with the MT-binding domains of MAPs and hinders MAP binding to MTs. Thus, MAP4 is a highly regulated type II MAP that controls MT assembly and disassembly.



Western blot analysis of MAP4 on HepG2 lysate. *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1: 4000 dilution of MAP4*
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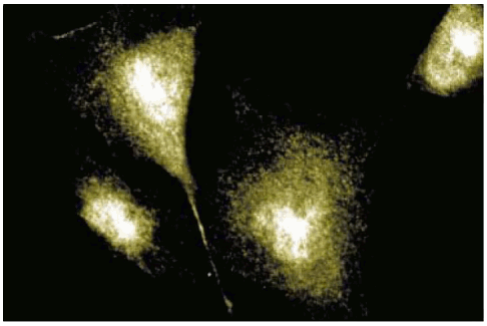

Human Endothelial

Preparation and Storage

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

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

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

References

Chapin SJ, Lue CM, Yu MT, Bulinski JC. Differential expression of alternatively spliced forms of MAP4: a repertoire of structurally different microtubule-binding domains. *Biochemistry.* 1995; 34(7):2289-2301.(Biology)

Drewes G, Ebneth A, Preuss U, Mandelkow EM, Mandelkow E. MARK, a novel family of protein kinases that phosphorylate microtubule-associated proteins and trigger microtubule disruption. *Cell.* 1997; 89(2):297-308.(Biology)

Ulitzur N, Humbert M, Pfeffer SR. Mapmodulin: a possible modulator of the interaction of microtubule-associated proteins with microtubules. *Proc Natl Acad Sci U S A.* 1997; 94(10):5084-5089.(Biology)