Technical Data Sheet

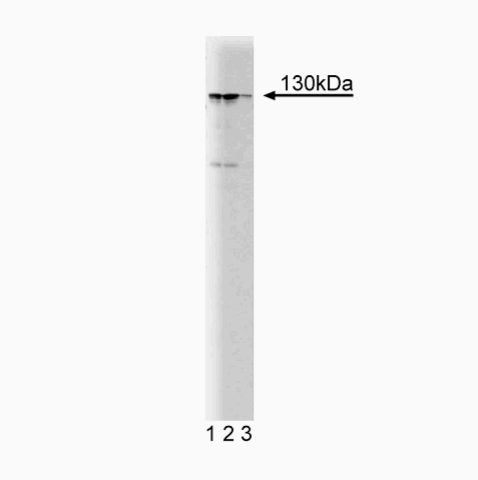
Purified Mouse Anti-MYPT1

Product Information

Material Number:	**612164**
Alternate Name:	Myosin Phosphatase Targeting subunit 1
Size:	50 µg
Concentration:	250 µg/ml
Clone:	20/MYPT1
Immunogen:	Rat MYPT1 aa. 723-840
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat Tested in Development: Human, Mouse
Target MW:	130 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Protein phosphatase-1 (PP1) is a major serine/threonine phosphatase that is involved in various cellular processes in eukaryotic cells. The PP1 catalytic subunit may be directed to particular subcellular locations by targeting subunits, which can modify the substrate specificity of the enzyme. The PP1 enzyme associated with the myofibrils of striated and smooth muscle forms a complex with Myosin Phosphatase Targeting subunit 1 (MYPT1). MYPT1 contains seven ankyrin repeats in the N-terminal region, and a leucine zipper (LZ) motif in the C-terminus. Alternative splicing of the MYPT1 mRNA leads to expression of a truncated MYPT1 that lacks the leucine zipper region. The expression of MYPT1 splice variants correlate with a smooth muscle phenotype. In the tonic contracting chicken aorta, only the full length MYPT1 is expressed, while in the phasic contracting chicken gizzard, only the truncated MYPT1 is expressed. The leucine zipper motif may be required for association with cGMP-dependent protein kinase I. Thus, MYPT1 may direct not only PP1 enzymatic activity toward myosin, but also may regulate the cGMP responsiveness of PP1 through expression of alternative splice variants.



Western blot analysis of MYPT1 on a rat cerebrum lysate. *Lane 1: 1:500, lane 2: 1:1000, lane 3: 1:2000 dilution of the mouse anti-MYPT1 antibody.*

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

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

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
611463	Rat Cerebrum Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	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

Chen YH, Chen MX, Alessi DR. Molecular cloning of cDNA encoding the 110 kDa and 21 kDa regulatory subunits of smooth muscle protein phosphatase 1M. *FEBS Lett.* 1994; 356(1):51-55.(Biology)

Khatri JJ, Joyce KM, Brozovich FV, Fisher SA. Role of myosin phosphatase isoforms in cGMP-mediated smooth muscle relaxation. *J Biol Chem.* 2001; 276(40):27250-27257.(Biology)

Kimura K, Ito M, Amano M. Regulation of myosin phosphatase by Rho and Rho-associated kinase (Rho-kinase). *Science.* 1996; 273(5272):245-248.(Biology)