

KATNA1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP59215

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	O75449
Reactivity	Rat, Pig, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55965
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human KATNA1/Katanin p60 A1
Epitope Specificity	221-320/491
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm. Cytoplasm, cytoskeleton, centrosome. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton. Note=Predominantly cytoplasmic. Also localized to the interphase centrosome and the mitotic spindle poles. Enhanced recruitment to the mitotic spindle poles requires microtubules and interaction with KATNB1.
SIMILARITY	Belongs to the AAA ATPase family. Katanin p60 subunit A1 subfamily.
SUBUNIT	Can homooligomerize into hexameric rings, which may be promoted by interaction with microtubules. Interacts with KATNB1, which may serve as a targeting subunit. Interacts with dynein and NDEL1. Associates with the E3 ligase complex containing DYRK2, EDD/UBR5, DDB1 and VPRBP proteins (EDVP complex).
Post-translational modifications	Ubiquitinated by the EDVP E3 ligase complex and subsequently targeted to proteasomal degradation.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Microtubules are polymers of alpha and beta subunits that form the mitotic spindle and assist in the organization of membranous organelles during interphase. Katanin p60 A1, also known as KATNA1, is a 491 amino acid protein that belongs to the AAA ATPase family and is involved in microtubule regulation. Localized to the cytoplasm and to the centrosome, Katanin p60 A1 functions to sever and disassemble microtubules in an ATP-dependent manner, thus promoting the rapid reorganization of cellular microtubule arrays and playing an important role in microtubule release from the centrosome after nucleation. Katanin p60 A1, which exists as two alternatively spliced isoforms, can homooligomerize into hexameric rings whose activity is stimulated by the presence of microtubules.

Additional Information

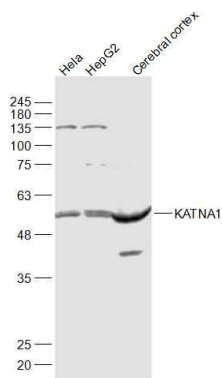
Gene ID	11104
Other Names	Katanin p60 ATPase-containing subunit A1 {ECO:0000255 HAMAP-Rule:MF_03023}, Katanin p60 subunit A1 {ECO:0000255 HAMAP-Rule:MF_03023}, 5.6.1.1 {ECO:0000255 HAMAP-Rule:MF_03023}, p60 katanin {ECO:0000255 HAMAP-Rule:MF_03023}, KATNA1 {ECO:0000255 HAMAP-Rule:MF_03023}
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:50-200,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

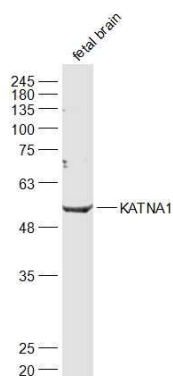
Name	KATNA1 {ECO:0000255 HAMAP-Rule:MF_03023}
Function	Catalytic subunit of a complex which severs microtubules in an ATP-dependent manner. Microtubule severing may promote rapid reorganization of cellular microtubule arrays and the release of microtubules from the centrosome following nucleation. Microtubule release from the mitotic spindle poles may allow depolymerization of the microtubule end proximal to the spindle pole, leading to poleward microtubule flux and poleward motion of chromosome. Microtubule release within the cell body of neurons may be required for their transport into neuronal processes by microtubule-dependent motor proteins. This transport is required for axonal growth.
Cellular Location	Cytoplasm. Midbody. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome {ECO:0000255 HAMAP-Rule:MF_03023} Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, spindle. Note=Predominantly cytoplasmic (PubMed:9658175). Localized diffusely in the cytoplasm during the interphase (PubMed:10751153). During metaphase is localized throughout the cell and more widely dispersed than the microtubules. In anaphase and telophase is localized at the midbody region (PubMed:19261606). Also localized to the interphase centrosome and the mitotic spindle poles (By similarity). Enhanced recruitment to the mitotic spindle poles requires microtubules and interaction with KATNB1 (PubMed:10751153). Localizes within the cytoplasm, partially overlapping with microtubules, in interphase and to the mitotic spindle and spindle poles during mitosis (PubMed:26929214). {ECO:0000255 HAMAP-Rule:MF_03023, ECO:0000269 PubMed:10751153, ECO:0000269 PubMed:19261606, ECO:0000269 PubMed:26929214, ECO:0000269 PubMed:9658175}

Images

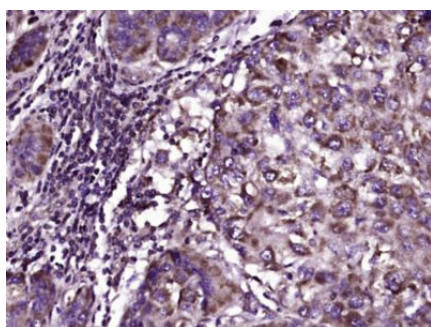
Sample:
Hela(Human) Cell Lysate at 30 ug
HepG2(Human) Cell Lysate at 30 ug
Cerebral cortex (Mouse) Lysate at 40 ug
Primary: Anti-KATNA1 (AP59215) at 1/1000 dilution



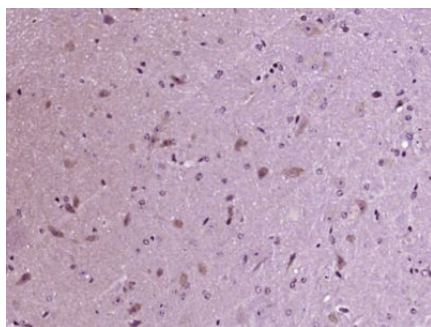
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
 Predicted band size: 56 kD
 Observed band size: 56 kD



Sample:
 Fetal brain (Mouse) Lysate at 40 ug
 Primary: Anti-KATNA1 (AP59215) at 1/1000 dilution
 Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
 Predicted band size: 56 kD
 Observed band size: 56 kD



Paraformaldehyde-fixed, paraffin embedded (Human liver carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (KATNA1) Polyclonal Antibody, Unconjugated (AP59215) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (KATNA1) Polyclonal Antibody, Unconjugated (AP59215) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.