abcam

ab53360

Anti-EB3 antibody [KT36]

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	Preservative: 0.1% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Human MAPRE3. Database link Q9UPY8
Clone number	KT36
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab18450 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Expected

Species	African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Expected

Species	African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	African green monkey
Dilution info	1/100 - 1/1000
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information MAPRE3

Function	Plus-end tracking protein (+TIP) that binds to the plus-end of microtubules and regulates the dynamics of the microtubule cytoskeleton (PubMed:19255245, PubMed:28814570). Promotes microtubule growth (PubMed:19255245, PubMed:28814570). May be involved in spindle function by stabilizing microtubules and anchoring them at centrosomes (PubMed:19255245, PubMed:28814570). Also acts as a regulator of minus-end microtubule organization: interacts with the complex formed by AKAP9 and PDE4DIP, leading to recruit CAMSAP2 to the Golgi apparatus, thereby tethering non-centrosomal minus-end microtubules to the Golgi, an important step for polarized cell movement (PubMed:28814570). Promotes elongation of CAMSAP2-decorated microtubule stretches on the minus-end of microtubules (PubMed:28814570).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	Up to 12 months
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	EB3 also known as End-binding protein 3 is a microtubule-associated protein with a molecular weight of approximately 32 kDa. This protein belongs to the EB family of proteins which includes EB1 and EB2. EB3 facilitates microtubule dynamics by binding to the plus ends of microtubules and playing a role in their stabilization and elongation. Researchers have observed its expression in various tissues with a notable presence in neuronal tissues where it supports complex cellular activities.
Biological function summary	EB3 interacts with other end-binding proteins as part of the plus-end tracking complex often abbreviated as +TIPs. This complex modulates the behavior of microtubules essential for processes like mitosis and cell migration. EB3's interaction within this complex stabilizes microtubules at the growing edge important for neuronal development and synaptic function. Additionally EB3 helps in intracellular signaling through direct interaction with other microtubule-associated proteins thereby contributing to cellular structural integrity.
Pathways	EB3 plays an integral role in the Wnt signaling pathway and the microtubule polymerization regulation pathway. These pathways are important for normal cell division and signaling. In the Wnt signaling pathway EB3 interacts with proteins like APC essential for the pathway's downstream signaling events that influence cell polarity and differentiation. Moreover its involvement in the polymerization

regulation pathway helps in facilitating effective cargo transport along microtubules.

Associated diseases and disorders

EB3 has been linked to neurodegenerative diseases such as Alzheimer's disease and certain types of cancer. Abnormalities in EB3 expression and function can lead to disruptions in microtubule stability contributing to the pathogenesis of these conditions. EB3's connection with tau protein further highlights its role in Alzheimer's where tau aggregation negatively affects microtubule function. In cancer alterations in EB3 expression influence tumor progression by impacting cell motility and invasiveness with implications for metastasis development.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

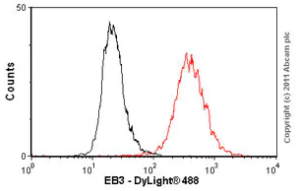
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images

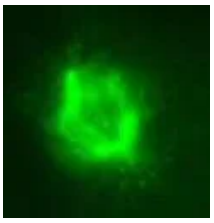


Flow Cytometry - Anti-EB3 antibody [KT36] (ab53360)

EB3 Flow Cytometry staining using rat Anti-EB3 antibody

Overlay histogram showing SH-SY5Y cells stained with ab53360 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab53360, 2µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rat IgG (H+L) (ab98386) at 1/500

dilution for 30 min at 22°C. Isotype control antibody (black line) was rat IgG2a [aRTK2758] (2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

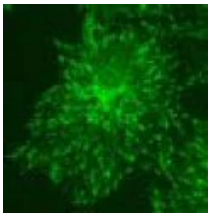


This image is courtesy of Dr Anna Akhmanova

Immunocytochemistry/ Immunofluorescence - Anti-EB3 antibody [KT36] (ab53360)

EB3 Immunocytochemistry/ Immunofluorescence staining using rat Anti-EB3 antibody

Immunofluorescent staining of cell mitosis using ab53360 crude culture supernatant diluted 1:10 (Please note that there was about 50-100 ug/ml antibody in the supernatants) COS7 Transformed African Green Monkey Kidney Fibroblast Cells.

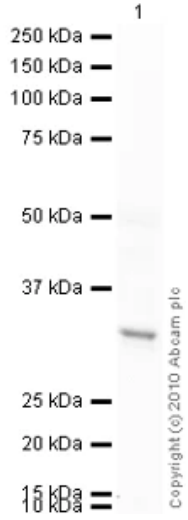


This image is courtesy of Dr Anna Akhmanova

Immunocytochemistry/ Immunofluorescence - Anti-EB3 antibody [KT36] (ab53360)

EB3 Immunocytochemistry/ Immunofluorescence staining using rat Anti-EB3 antibody

Immunofluorescent staining for COS7 cells overexpressing EB3, using ab53360 at 1/100.



Western blot - Anti-EB3 antibody [KT36] (ab53360)

All lanes:
Western blot - Anti-EB3 antibody [KT36] (ab53360) at 1 µg/mL

All lanes:
Human brain tissue lysate - total protein (ab29466) at 10 µg

Secondary

All lanes:
Peroxidase Conjugated AffiniPure Rabbit Anti-Rat IgG (H+L) at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 31 kDa

Observed band size: 32 kDa

Exposure time: 8min

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