

Product datasheet

Anti-Eph receptor A2 antibody [K α -5H5] ab59551

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Overview

Product name	Anti-Eph receptor A2 antibody [K α -5H5]
Description	Mouse monoclonal [K α -5H5] to Eph receptor A2
Host species	Mouse
Specificity	ab59551 recognises the complete native EphA2 protein expressed on transfected mammalian cells.
Tested applications	Suitable for: Flow Cyt, ICC/IF
Species reactivity	Reacts with: Human, Recombinant fragment
Immunogen	cDNA encoding human EphA2.
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term.
Storage buffer	pH: 7.20 Constituent: PBS
Purity	Protein G purified
Clonality	Monoclonal
Clone number	K α -5H5
Isotype	IgG1

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab59551 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		Use 1.2µg for 10 ⁶ cells. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
ICC/IF		Use 1µg for 10 ⁶ cells.

Target

Function

Receptor for members of the ephrin-A family. Binds to ephrin-A1, -A3, -A4 and -A5. Plays an important role in angiogenesis and tumor neovascularization. The recruitment of VAV2, VAV3 and PI3-kinase p85 subunit by phosphorylated EPHA2 is critical for EFNA1-induced RAC1 GTPase activation and vascular endothelial cell migration and assembly (By similarity). Induces apoptosis in a p53/TP53-independent, caspase-8-dependent manner.

Tissue specificity

Expressed in brain and glioma tissue and glioma cell lines (at protein level). Expressed most highly in tissues that contain a high proportion of epithelial cells, e.g., skin, intestine, lung, and ovary.

Involvement in disease

Genetic variations in EPHA2 are the cause of susceptibility to cataract cortical age-related type 2 (ARCC2) [MIM:613020]. A developmental punctate opacity common in the cortex and present in most lenses. The cataract is white or cerulean, increases in number with age, but rarely affects vision.

Defects in EPHA2 are the cause of cataract posterior polar type 1 (CTPP1) [MIM:116600]. A subcapsular opacity, usually disk-shaped, located at the back of the lens. It can have a marked effect on visual acuity.

Sequence similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. Ephrin receptor subfamily. Contains 2 fibronectin type-III domains.
Contains 1 protein kinase domain.
Contains 1 SAM (sterile alpha motif) domain.

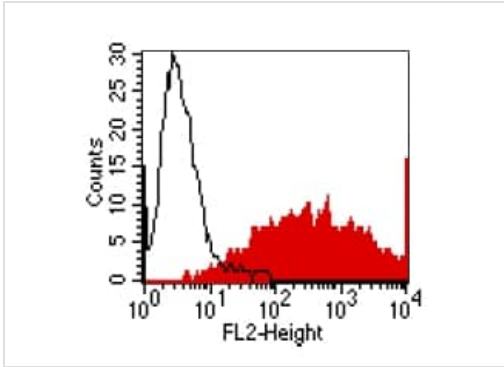
Post-translational modifications

Activated by EFNA1 via tyrosine phosphorylation. Phosphorylated residues Tyr-588 and Tyr-594 are required for binding VAV2 and VAV3 while phosphorylated residues Tyr-735 and Tyr-930 are required for binding PI3-kinase p85 subunit. These phosphorylated residues are critical for recruitment of VAV2 and VAV3 and PI3-kinase p85 subunit which transduce downstream signaling to activate RAC1 GTPase and endothelial cell migration. They also play a critical role in transducing EPHA2 signaling in vascular endothelial cells during tumor angiogenesis.

Cellular localization

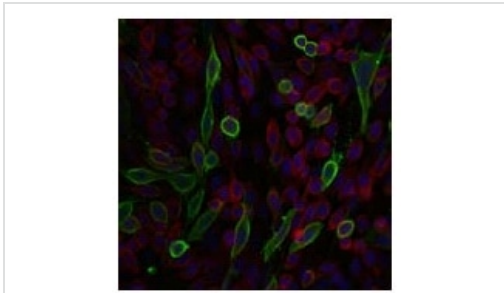
Membrane.

Images



Flow Cytometry - Anti-Eph receptor A2 antibody
[Ka-5H5] (ab59551)

FACS analysis of BOSC23 cells using ab59551 at $1.2 \mu\text{g}/10^6$ cells. BOSC23 cells were transiently trans-fected with an expression vector encoding either EphA2 (red curve) or an irrelevant protein (control transfectant). Binding of ab59551 was detected with a PE-conjugated secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Eph receptor A2 antibody [Ka-5H5] (ab59551)

Spectral Confocal Microscopy of CHO cells using ab59551 at $1 \mu\text{g}/10^6$ cells. CHO cells were transiently transfected with an expression vector encoding EphA2. Binding of ab59551 was visualized with a FITC-conjugated secondary antibody (green). Actin filaments are labeled with Alexa Fluor-555 Phalloidin (red). Cell nuclei are stained with DAPI (blue).

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