

Product datasheet

Anti-Eph receptor A2 antibody ab5386

[9 References](#) [4 Images](#)

Overview

Product name	Anti-Eph receptor A2 antibody
Description	Rabbit polyclonal to Eph receptor A2
Host species	Rabbit
Tested applications	Suitable for: IHC-P, ELISA, WB, ICC/IF
Species reactivity	Reacts with: Hamster, Human
Immunogen	Synthetic peptide conjugated to KLH, corresponding to amino acids 45-60 of Human Eph A2.
Positive control	CHO cell lysate
General notes	Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the γ phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The tyrosine kinase (TK) group is mainly involved in the regulation of cell-cell interactions such as differentiation, adhesion, motility and death. There are currently about 90 TK genes sequenced, 58 are of receptor protein TK (e.g. EGFR, EPH, FGFR, PDGFR, TRK, and VEGFR families), and 32 of cytosolic TK (e.g. ABL, FAK, JAK, and SRC families).

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.09% Sodium azide Constituent: PBS
Purity	Protein G purified
Purification notes	This antibody is purified through a protein G column and eluted out with both high and low pH buffers. It is neutralized immediately after elution, followed by dialysis against PBS.
Primary antibody notes	Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally

the γ phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The tyrosine kinase (TK) group is mainly involved in the regulation of cell-cell interactions such as differentiation, adhesion, motility and death. There are currently about 90 TK genes sequenced, 58 are of receptor protein TK (e.g. EGFR, EPH, FGFR, PDGFR, TRK, and VEGFR families), and 32 of cytosolic TK (e.g. ABL, FAK, JAK, and SRC families).

Clonality

Polyclonal

Isotype

IgG

Applications

The Abpromise guarantee

Our [Abpromise guarantee](#) covers the use of ab5386 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
IHC-P		1/50 - 1/100.
ELISA		1/1000.
WB		1/100 - 1/500. Detects a band of approximately 107 kDa (predicted molecular weight: 117 kDa).
ICC/IF		Use at an assay dependent concentration. PubMed: 22570727

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.

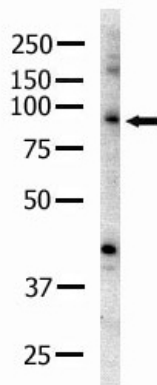
Post-translational modifications

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

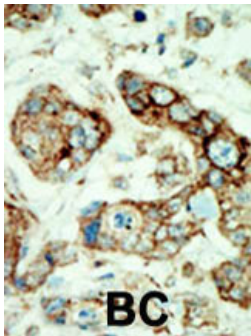
Membrane.

Images



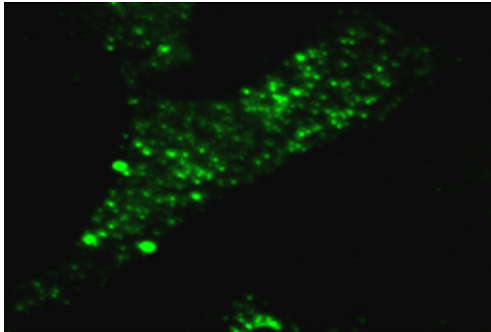
Western blot - Anti-Eph receptor A2 antibody
(ab5386)

ab5386 at a 1/100 dilution staining approximately 107kDa band of Eph A2 in CHO cell lysate by Western blot (ECL) ab5386 at a 1/100 dilution staining approximately 107kDa band of Eph A2 in CHO cell lysate by Western blot (ECL)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Eph receptor A2 antibody
(ab5386)

ab5386 staining Eph receptor A2 in human breast carcinoma (BC) tissue by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). ab5386 was peroxidase-conjugated to the secondary antibody, followed by AEC staining.

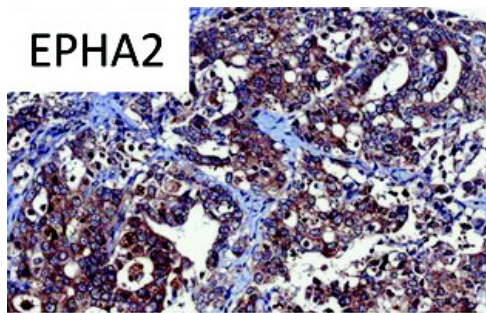


Immunocytochemistry/ Immunofluorescence - Anti-Eph receptor A2 antibody (ab5386)

Image from Park JE et al., PLoS One. 2012;7(5):e36564. Epub 2012 May 3. Fig 2.; doi:10.1371/journal.pone.0036564; May 3, 2012, PLoS ONE 7(5): e36564.

Immunofluorescence analysis of EphA2^{-/-} mouse embryonic fibroblasts expressing wild-type EPHA2, staining Eph receptor A2 with ab5386.

Cells were fixed in paraformaldehyde on ice for 30 minutes, permeabilized with 0.3% PBS including Tween-20, and then blocked with 5% goat serum at room temperature for 2 hours. before incubation with primary antibody (1/200).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Eph receptor A2 antibody (ab5386)

Image from Guo T et al., J Proteome Res 11:3405-3413 (2012). Epub 2012 May 7. Fig 4.; DOI: 10.1021/pr300212g; April 25, 2012, J. Proteome Res., 2012, 11 (6), pp 3405–3413 with permission from the American Chemical Society.

Immunohistochemical analysis of Human gastric adenocarcinoma, staining Eph receptor A2 with ab5386 at 1.25 µg/ml.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish

- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors