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PIKE Antibody
Catalog # ASC10246

Specification

PIKE Antibody - Product Information

Application	**WB, IHC**
Primary Accession	Q99490
Other Accession	AAM97540, 25989575
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**PIKE antibody can be used for detection of PIKE by Western blot at 0.5 to 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 10 µg/mL.**

PIKE Antibody - Additional Information

Gene ID **116986**

Other Names
PIKE Antibody: PIKE, GGAP2, CENTG1, KIAA0167, Arf-GAP with GTPase, ANK repeat and PH domain-containing protein 2, Centaurin-gamma-1, AGAP-2, ArfGAP with GTPase domain, ankyrin repeat and PH domain 2

Target/Specificity
AGAP2; Anti-PIKE will detect both PIKE-L and PIKE-A isoforms.

Reconstitution & Storage
PIKE antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
PIKE Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PIKE Antibody - Protein Information

Name AGAP2

Synonyms CENTG1, KIAA0167

Function
GTPase-activating protein (GAP) for ARF1 and ARF5, which also shows strong GTPase activity. Isoform 1 participates in the prevention of neuronal apoptosis by enhancing PI3 kinase activity. It aids the coupling of metabotropic glutamate receptor 1 (GRM1) to cytoplasmic PI3 kinase by interacting with Homer scaffolding proteins, and also seems to mediate anti-apoptotic effects of

NGF by activating nuclear PI3 kinase. Isoform 2 does not stimulate PI3 kinase but may protect cells from apoptosis by stimulating Akt. It also regulates the adapter protein 1 (AP-1)-dependent trafficking of proteins in the endosomal system. It seems to be oncogenic. It is overexpressed in cancer cells, prevents apoptosis and promotes cancer cell invasion.

Cellular Location
[Isoform 1]: Cytoplasm. Nucleus.

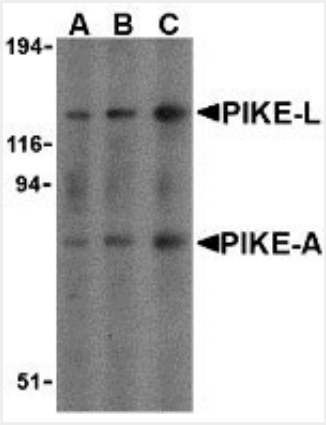
Tissue Location
Isoform 1 is brain-specific. Isoform 2 is ubiquitously expressed, with highest levels in brain and heart

PIKE Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PIKE Antibody - Images



Western blot analysis of PIKE in mouse brain cell lysates with PIKE antibody at (A) 0.5, (B) 1, and (C) 2 µg/mL.

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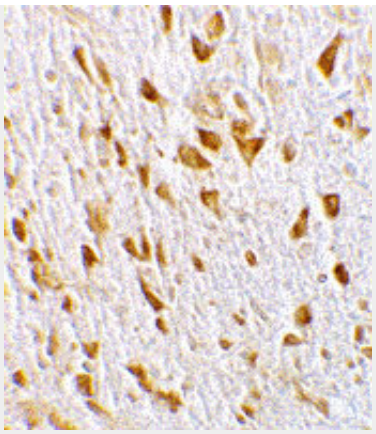

Immunohistochemistry of PIKE in mouse brain tissue with PIKE antibody at 10 µg/mL.

PIKE Antibody - Background

PIKE Antibody: Phosphoinositide 3 kinase enhancer (PIKE) is a recently identified nuclear GTPase that interacts with nuclear phosphoinositide 3-kinase (PI3 kinase) to stimulate its lipid kinase activity. PIKE exists in multiple isoforms; a shorter C-terminal isoform (PIKE-A) has also been identified as centaurin gamma 1. The longest isoform (PIKE-L) has been shown to bind to the adaptor protein Homer and thereby link to metabotropic glutamate receptors, leading to activation of PI3 kinase activity and prevention of neuronal apoptosis. Overexpression of PIKE-A enhances Akt activity and promotes cancer cell invasion, whereas decreased expression of PIKE-A via dominant negative expression of PIKE-A or PIKE-A knockdown inhibits these processes. In many human cancers, expression of PIKE-A is enhanced, leading to increased Akt activity and preventing apoptosis.

PIKE Antibody - References

Ye K, Hurt KJ, Wu FY, et al. Pike. A nuclear gtpase that enhances PI3kinase activity and is regulated by protein 4.1N. Cell 2000; 103:919-30.
Jackson TR, Kearns BG, and Thiebert AB. Cytohesins and centaurins: mediators of PI3-kinase-regulated Arf signaling. Trends Biochem. Sci. 2000; 25:489-95.
Rong R, Ahn JY, Huang H, et al. PI3 kinase enhancer-Homer complex couples mGluRI to PI3 kinase, preventing neuronal apoptosis. Nat. Neurosci. 2003; 6:1153-61.
Ahn J-Y, Rong R, Kroll TG, et al. PIKE (Phosphotidylinositol 3-kinase enhancer)-A GTPase stimulates Akt activity and mediates cellular invasion. J. Biol. Chem. 2004; 279:16441-51.