SANTA CRUZ BIOTECHNOLOGY, INC.

PIKE (G-9): sc-166864

BACKGROUND

PIKE (phosphatidylinositol-3-kinase enhancer), also known as CENTG1 (centaurin-γ-1), AGAP2 or GGAP2 is a 1,192 amino acid protein that is expressed as two isoforms, namely PIKE-L, which is brain-specific and PIKE-A (also known as PIKE-S) which is found throughout the body. Localized to both the nucleus and the cytoplasm, PIKE functions as a GAP (GTPase-activating protein) that is activated by phosphatidylinositol 4,5-bisphosphate (PIP2) and plays an important role in the prevention of neuronal apoptosis. Specifically, PIKE interacts with proteins such as ARF1, ARF5, PLC γ1 and Homer and via these interactions regulates endosomal trafficking and protein coupling events. PIKE contains one PH domain, one Miro domain, one Arf-GAP domain and two ANK repeats through which it conveys its protein-binding and GAP activity. While overexpression of PIKE causes tumor growth and invasion, reduced levels of PIKE are associated with neuronal cell death.

REFERENCES

1. Ye, K., et al. 2000. PIKE. A nuclear gtpase that enhances PI3kinase activity and is regulated by protein 4.1N. Cell 103: 919-930.
2. Nie, Z., et al. 2002. AGAP1, an endosome-associated, phosphoinositide-dependent ADP-ribosylation factor GTPase-activating protein that affects actin cytoskeleton. J. Biol. Chem. 277: 48965-48975.

CHROMOSOMAL LOCATION

Genetic locus: AGAP2 (human) mapping to 12q14.1; Agap2 (mouse) mapping to 10 D3.

SOURCE

PIKE (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 780-810 within an internal region of PIKE of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PIKE (G-9) is available conjugated to agarose (sc-166864 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166864 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166864 PE), fluorescein (sc-166864 FITC), Alexa Fluor® 488 (sc-166864 AF488), Alexa Fluor® 546 (sc-166864 AF546), Alexa Fluor® 594 (sc-166864 AF594) or Alexa Fluor® 647 (sc-166864 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166864 AF680) or Alexa Fluor® 790 (sc-166864 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166864 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

PIKE (G-9) is recommended for detection of PIKE of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PIKE (G-9) is also recommended for detection of PIKE in additional species, including canine and porcine.

Suitable for use as control antibody for PIKE siRNA (h): sc-62812, PIKE siRNA (m): sc-62813, PIKE shRNA Plasmid (h): sc-62812-SH, PIKE shRNA Plasmid (m): sc-62813-SH, PIKE shRNA (h) Lentiviral Particles: sc-62812-V and PIKE shRNA (m) Lentiviral Particles: sc-62813-V.

Molecular Weight of PIKE-L: 130 kDa.

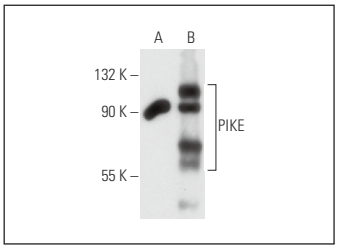
Molecular Weight of PIKE-S: 90 kDa.

Positive Controls: PIKE (h): 293T Lysate: sc-114780.

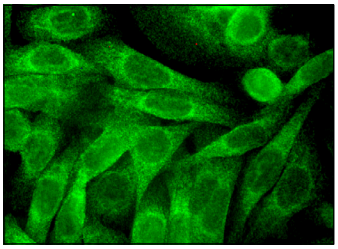
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PIKE (G-9): sc-166864. Western blot analysis of PIKE expression in non-transfected: sc-117752 (**A**) and human PIKE transfected: sc-114780 (**B**) 293T whole cell lysates.



PIKE (G-9): sc-166864. Immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Navarro-Corcuera, A., et al. 2019. Role of AGAP2 in the profibrogenic effects induced by TGFβ in LX-2 hepatic stellate cells. Biochim. Biophys. Acta Mol. Cell Res. 1866: 673-685.

RESEARCH USE

For research use only, not for use in diagnostic procedures.