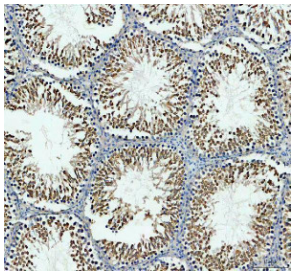
GKAP1 Antibody / G kinase-anchoring protein 1 Antibody (FY12580)

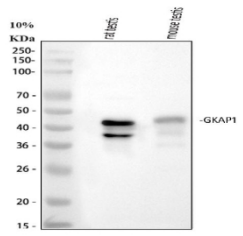
Catalog No.	Formulation	Size
FY12580	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

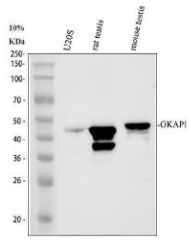
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q5VSY0
Applications	ELISA: 0.1-0.5ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Western Blot: 0.25-0.5ug/ml
Limitations	This GKAP1 Antibody / G kinase-anchoring protein 1 Antibody is available for research use only.



GKAP1 Antibody Rat Testis IHC. Immunohistochemical staining of FFPE rat testis tissue using GKAP1 Antibody at 2 ug/ml with HRP/DAB detection following heat-induced epitope retrieval in pH8 EDTA buffer. Prominent staining is observed in seminiferous tubules, with strongest expression in developing germ cells, consistent with the reported role of GKAP1 in testicular function and intracellular signaling. This staining pattern demonstrates the utility of GKAP1 Antibody, a G Kinase-Anchoring Protein 1 Antibody, for investigating reproductive biology, germ cell development and protein kinase A signaling in tissue sections.



Western blot analysis of GKAP1 using GKAP1 Antibody / G kinase-anchoring protein 1 Antibody. Lane 1: rat testis tissue lysates, Lane 2: mouse testis tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GKAP1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Western blot analysis of rat and mouse testis lysates probed with anti-GKAP1 shows a major band at the expected ~46 kDa full-length protein and a lower ~38â€“40 kDa band corresponding to a truncated GKAP1 isoform expressed in testis.



GKAP1 Antibody Human and Rodent Testis WB. Western blot analysis of GKAP1 Antibody using lysates from lane 1: human U2OS cells, lane 2: rat testis and lane 3: mouse testis. A specific band is detected at approximately 42 kDa, consistent with the predicted molecular weight of endogenous GKAP1. An additional lower-molecular-weight band is observed in rat testis, which may represent a tissue-specific isoform or post-translationally processed form of the protein. These results demonstrate cross-species detection of GKAP1 and support the use of GKAP1 Antibody, a G Kinase-Anchoring Protein 1 Antibody, for studies of protein kinase A signaling, testicular biology and intracellular scaffold proteins.

Description

GKAP1 antibody detects G kinase-anchoring protein 1, a scaffold protein that coordinates the localization and activity of cGMP-dependent protein kinase (PKG) signaling complexes. GKAP1 serves as a key adaptor linking kinases, phosphatases, and cytoskeletal elements, thereby influencing cellular responses to cyclic nucleotide signaling. The GKAP1 antibody is widely used in cardiovascular, renal, and neurobiology research to study cGMP signaling pathways and subcellular kinase organization.

GKAP1 is encoded by the GKAP1 gene located on human chromosome 9q31.1. The protein is approximately 96 kilodaltons and characterized by multiple ankyrin repeats and leucine zipper motifs that mediate protein-protein interactions. It functions as an anchoring protein for PKG, positioning the kinase in proximity to its substrates at specific subcellular compartments, including the cytoskeleton and plasma membrane. This compartmentalization ensures spatial precision in cGMP-mediated signaling events.

The GKAP1 antibody detects a 96 kilodalton band by western blot and shows cytoplasmic and perinuclear localization under immunofluorescence. GKAP1 binds directly to PKG I and II isoforms, facilitating phosphorylation of target proteins involved in smooth muscle relaxation, ion channel regulation, and metabolic control. Through its anchoring role, GKAP1 contributes to compartmentalized cGMP signaling, distinguishing localized kinase activity from global cyclic nucleotide effects.

Beyond its role in vascular signaling, GKAP1 participates in neuronal signaling and synaptic plasticity. It interacts with cytoskeletal proteins and actin-regulatory molecules, influencing axon growth and dendritic morphology. GKAP1 may also modulate insulin signaling and energy metabolism through PKG-mediated pathways in adipocytes and hepatocytes.

Dysregulation of GKAP1 expression alters cGMP signaling fidelity and is associated with cardiovascular disorders, hypertension, and metabolic diseases. Overexpression enhances PKG activity and smooth muscle relaxation, whereas loss of GKAP1 results in impaired vasodilation and reduced cellular responsiveness to nitric oxide. Because of its central role in cGMP signaling scaffolding, GKAP1 represents a valuable target for understanding kinase compartmentalization and cyclic nucleotide signaling networks.

NSJ Bioreagents provides a validated GKAP1 antibody optimized for western blot, immunohistochemistry, and protein

interaction studies, supporting research into kinase anchoring, cGMP signaling, and subcellular signal organization.

Researchers studying protein kinase A signaling, intracellular scaffold proteins and signal transduction may also be interested in our Signal Transduction Antibodies page, featuring antibodies against key regulators of cellular signaling pathways.

Application Notes

Optimal dilution of the GKAP1 Antibody / G kinase-anchoring protein 1 Antibody should be determined by the researcher.

Immunogen

E.coli-derived human GKAP1 recombinant protein (Position: E69-R366) was used as the immunogen for the GKAP1 antibody.

Storage

After reconstitution, the GKAP1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

GKAP1 antibody, G Kinase-Anchoring Protein 1 antibody, GKAP-1 antibody, A Kinase Anchoring Protein 121 Like antibody

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