

Datasheet for ABIN7147509
anti-PRKG1 antibody (AA 1-300)



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1 Image

Overview

Quantity:	100 µL
Target:	PRKG1
Binding Specificity:	AA 1-300
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This PRKG1 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA

Product Details

Immunogen:	Recombinant Human cGMP-dependent protein kinase 1 protein (1-300AA)
Isotype:	IgG
Cross-Reactivity:	Human, Mouse
Purification:	Antigen Affinity Purified

Target Details

Target:	PRKG1
Alternative Name:	PRKG1 (PRKG1 Products)
Background:	Background: Serine/threonine protein kinase that acts as key mediator of the nitric oxide (NO)/cGMP signaling pathway. GMP binding activates PRKG1, which phosphorylates serines

Target Details

and threonines on many cellular proteins. Numerous protein targets for PRKG1 phosphorylation are implicated in modulating cellular calcium, but the contribution of each of these targets may vary substantially among cell types. Proteins that are phosphorylated by PRKG1 regulate platelet activation and adhesion, smooth muscle contraction, cardiac function, gene expression, feedback of the NO-signaling pathway, and other processes involved in several aspects of the CNS like axon guidance, hippocampal and cerebellar learning, circadian rhythm and nociception. Smooth muscle relaxation is mediated through lowering of intracellular free calcium, by desensitization of contractile proteins to calcium, and by decrease in the contractile state of smooth muscle or in platelet activation. Regulates intracellular calcium levels via several pathways: phosphorylates MRVI1/IRAG and inhibits IP3-induced Ca²⁺ release from intracellular stores, phosphorylation of KCNMA1 (BKCa) channels decreases intracellular Ca²⁺ levels, which leads to increased opening of this channel. PRKG1 phosphorylates the canonical transient receptor potential channel (TRPC) family which inactivates the associated inward calcium current. Another mode of action of NO/cGMP/PKG1 signaling involves PKGI-mediated inactivation of the Ras homolog gene family member A (RhoA). Phosphorylation of RHOA by PRKG1 blocks the action of this protein in myriad processes: regulation of RHOA translocation, decreasing contraction, controlling vesicle trafficking, reduction of myosin light chain phosphorylation resulting in vasorelaxation. Activation of PRKG1 by NO signaling alters also gene expression in a number of tissues. In smooth muscle cells, increased cGMP and PRKG1 activity influence expression of smooth muscle-specific contractile proteins, levels of proteins in the NO/cGMP signaling pathway, down-regulation of the matrix proteins osteopontin and thrombospondin-1 to limit smooth muscle cell migration and phenotype. Regulates vasodilator-stimulated phosphoprotein (VASP) functions in platelets and smooth muscle.

Aliases: cGK 1 antibody, cGK1 antibody, cGKI alpha antibody, cGKI antibody, cGKI beta antibody, cGMP-dependent protein kinase 1 antibody, cGMP-dependent protein kinase I antibody, DKFZp686K042 antibody, FLJ36117 antibody, KGP1_HUMAN antibody, KGPB antibody, MGC71944 antibody, pkg antibody, PRKG1 antibody, PRKG1B antibody, PRKGR1A antibody, PRKGR1B antibody

UniProt: [Q13976](#)

Application Details

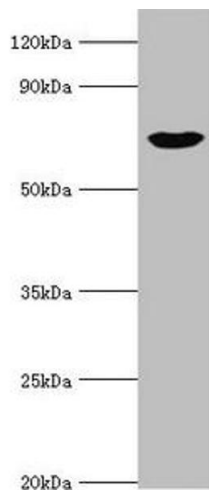
Application Notes: Recommended dilution: WB:1:500-1:2000,

Restrictions: For Research Use only

Handling

Format:	Liquid
Buffer:	PBS with 0.02 % sodium azide, 50 % glycerol, pH 7.3.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

Images



Western Blotting

Image 1. Western blot All lanes: cGMP-dependent protein kinase 1 antibody at 3 µg/mL + Mouse lung tissue
Secondary Goat polyclonal to rabbit IgG at 1/10000 dilution
Predicted band size: 77, 78, 45 kDa Observed band size: 77 kDa