abcam

Product datasheet

Anti-cGKI antibody ab97339

3 References 画像数 2

医薬用外劇物

製品の概要

製品名	Anti-cGKI antibody
製品の詳細	Rabbit polyclonal to cGKI
由来種	Rabbit
アプリケーション	**適用あり:** WB, ICC/IF
種交差性	**交差種:** Human **交差が予測される動物種:** Mouse, Rat, Rabbit, Cow, Pig
免疫原	Recombinant fragment, corresponding to a sequence within amino acids 1-270 of Human cGKI (NP_001091982).
ポジティブ・コントロール	HepG2 and Raji cell lysates; MOLT4 whole cell lysate; A549 cells.
特記事項	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
バッファー	pH: 7.00 Preservative: 0.01% Thimerosal (merthiolate) Constituents: 1.21% Tris, 0.75% Glycine, 10% Glycerol (glycerin, glycerine)
精製度	Immunogen affinity purified
ポリ/モノ	ポリクローナル
アイソタイプ	IgG

アプリケーション

The Abpromise guarantee **Abpromise保証は、** 次のテスト済みアプリケーションにおけるab97339の使用に適用されます

アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご検討ください。

アプリケーション	Abreviews	特記事項
WB		1/500 - 1/3000. Predicted molecular weight: 76 kDa.
ICC/IF		1/100 - 1/200.

ターゲット情報

機能

Serine/threonine protein kinasethat acts as key mediator of the nitric oxide (NO)/cGMP signaling pathway. GMP binding activates PRKG1, which phosphorylates serines 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. Smoth 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 Ca(2+) release from intracellular stores, phosphorylation of KCNMA1 (BKCa) channels decreases intracellular Ca(2+) 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/PKGI 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.

組織特異性

Primarily expressed in lung and placenta.

配列類似性

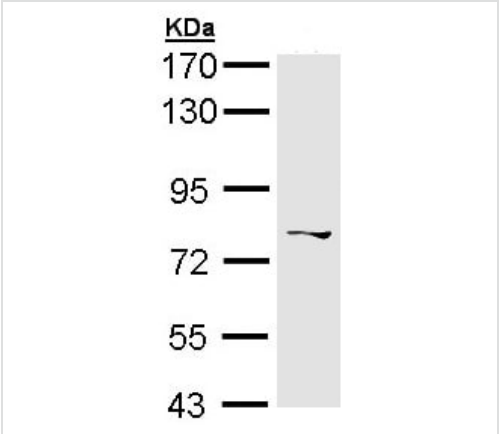
Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. cGMP subfamily.
Contains 1 AGC-kinase C-terminal domain.
Contains 2 cyclic nucleotide-binding domains.
Contains 1 protein kinase domain.

ドメイン

Composed of an N-terminal leucine-zipper domain followed by an autoinhibitory domain, which mediate homodimer formation and inhibit kinase activity, respectively. Next, two cGMP-binding domains are followed by the catalytic domain at the C-terminus. Binding of cGMP to cGMP-binding domains results in a conformational change that activates kinase activity by removing the autoinhibitory domain from the catalytic cleft leaving the catalytic domain free to phosphorylate downstream substrates. Isoforms alpha and beta have identical cGMP-binding and catalytic domains but differ in their leucine zipper and autoinhibitory sequences and therefore differ in their dimerization substrates and kinase enzyme activity.

	Heterotetramerization is mediated by the interaction between a coiled-coil of PRKG1 and the leucine/isoleucine zipper of PPP1R12A/MBS, the myosin-binding subunit of the myosin phosphatase.
翻訳後修飾	Autophosphorylation increases kinase activity. 65 kDa monomer is produced by proteolytic cleavage.
細胞内局在	Cytoplasm. Colocalized with TRPC7 in the plasma membrane.

画像

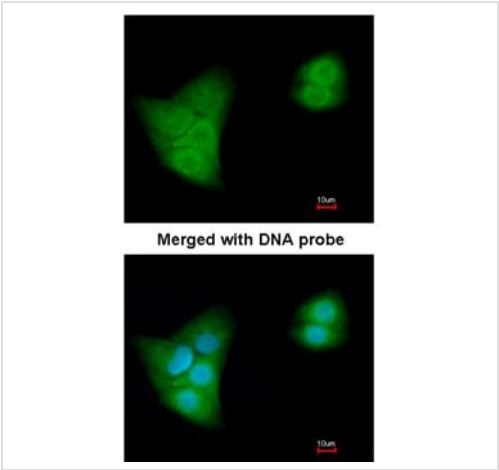


Western blot - Anti-cGKI antibody (ab97339)

Anti-cGKI antibody (ab97339) at 1/3000 dilution + MOLT4 whole cell lysates at 30 µg

Predicted band size: 76 kDa

7.5% SDS-PAGE.



Immunocytochemistry/ Immunofluorescence - Anti-cGKI antibody (ab97339)

ab97339 at 1/200 dilution staining cGKI in A549 cells by Immunofluorescence, Paraformaldehyde fixed. Lower image is merged with DNA probe.

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