Revision 1

#8188 Store at -20C

PKD2 (D1A7) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-IC	H Mk Pg	Endogenous	105	Rabbit IgG	#Q9BZL6	25865

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

PKD2 (D1A7) Rabbit mAb recognizes endogenous levels of total PKD2 protein. This antibody does not cross react with PKD1 or PKD3.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly491 of human PKD2 protein.

Background

Protein kinase D2 (PKD2) is one of three members of the protein kinase D family, including PKD1/PKCµ and PKD3/PKCν, that belong to the calcium/calmodulin superfamily of serine/threonine protein kinases (1,2). PKDs contain a conserved, carboxy-terminal catalytic domain, an amino-terminal regulatory region hallmarked by a PH domain that coordinates subcellular localization, and two zinc-finger/C1 lipid-binding domains that mediate activation of the enzyme in response to diacylglycerol (DAG) or phorbol ester (2,3). In addition to lipid-mediated activation, PKD catalytic activity can also be stimulated via phosphorylation of critical serine residues within the activation loop of the enzyme (4-8). Novel PKCs, such as PKCη and PKCε, have been shown to phosphorylate PKD1 at Ser744 and Ser748 (Ser706 and Ser710 in human PKD2), resulting in alleviation of autoinhibition of the enzyme mediated by PH domain interactions with the catalytic domain (5). Phosphorylation and activation of PKD isoforms has also been described for other upstream kinases. For example, casein kinase 2 (CK2) has been shown to phosphorylate PKD2 at Ser244, which promotes nuclear accumulation of PKD2, phosphorylation of HDAC7, and expression of Nur77 (9). Although only a handfull of PKD2 effectors have been identified, PKD2 has been implicated in regulating an array of cellular events, including cell survival, development, growth, migration, and transformation (10-14). PKD2-mediated phosphorylation of at least one known substrate, phosphatidylinositol 4-kinase type IIIβ (PI4KIIIβ), also implicates PKD2 in the formation and regulation of exocytotic transport vesicles from the trans Golgi network (15).

Background References

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Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **Mk:** Monkey **Pg:** Pig

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Limited Uses