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DGKZ Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8060B

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	Q13574
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	103981
Antigen Region	989-1019

Additional Information

Gene ID	8525
Other Names	Diacylglycerol kinase zeta, DAG kinase zeta, Diglyceride kinase zeta, DGK-zeta, DGKZ, DAGK6
Target/Specificity	This DGKZ antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 989-1019 amino acids from the C-terminal region of human DGKZ.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DGKZ Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DGKZ (HGNC:2857)
Synonyms	DAGK6
Function	Diacylglycerol kinase that converts diacylglycerol/DAG into phosphatidic acid/phosphatidate/PA and regulates the respective levels of these two

bioactive lipids (PubMed:15544348, PubMed:18004883, PubMed:19744926, PubMed:22108654, PubMed:22627129, PubMed:23949095, PubMed:9159104). Thereby, acts as a central switch between the signaling pathways activated by these second messengers with different cellular targets and opposite effects in numerous biological processes (PubMed:15544348, PubMed:18004883, PubMed:19744926, PubMed:22108654, PubMed:22627129, PubMed:23949095, PubMed:9159104). Also plays an important role in the biosynthesis of complex lipids (Probable). Does not exhibit an acyl chain-dependent substrate specificity among diacylglycerol species (PubMed:19744926, PubMed:22108654, PubMed:9159104). Can also phosphorylate 1-alkyl-2-acylglycerol in vitro but less efficiently and with a preference for alkylacylglycerols containing an arachidonoyl group (PubMed:15544348, PubMed:19744926, PubMed:22627129). The biological processes it is involved in include T cell activation since it negatively regulates T-cell receptor signaling which is in part mediated by diacylglycerol (By similarity). By generating phosphatidic acid, stimulates PIP5KIA activity which regulates actin polymerization (PubMed:15157668). Through the same mechanism could also positively regulate insulin-induced translocation of SLC2A4 to the cell membrane (By similarity).

Cellular Location Nucleus. Cytoplasm, cytosol. Cell membrane. Cell projection, lamellipodium

Tissue Location Highest levels in brain, and substantial levels in skeletal muscle, heart, and pancreas.

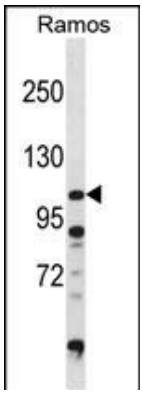
Background

DGKZ belongs to the eukaryotic diacylglycerol kinase family. It may attenuate protein kinase C activity by regulating diacylglycerol levels in intracellular signaling cascade and signal transduction.

References

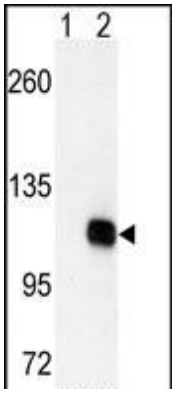
Hogan, A., et al., J. Biol. Chem. 276(28):26526-26533 (2001).
Topham, M.K., et al., Nature 394(6694):697-700 (1998).
Ding, L., et al., Proc. Natl. Acad. Sci. U.S.A. 94(11):5519-5524 (1997).
Bunting, M., et al., J. Biol. Chem. 271(17):10230-10236 (1996).

Images

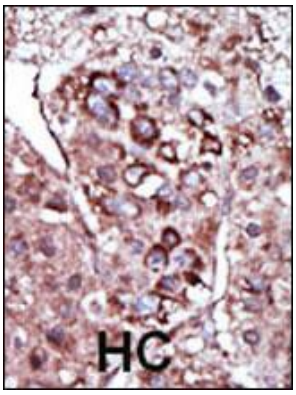


DGKZ Antibody (D1004) (Cat. #AP8060b) western blot analysis in Ramos cell line lysates (35ug/lane).This demonstrates the DGKZ antibody detected the DGKZ protein (arrow).

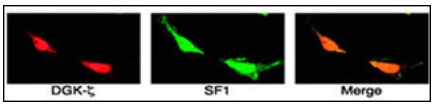
Western blot analysis of DGKZ (arrow) using DGKZ Antibody (C-term) (Cat.#AP8060b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the DGKZ gene (Lane 2) (Origene



Technologies).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



SF1 colocalizes with DGK and PA in the nuclei of H295R cells. Cells were plated onto glass coverslips, fixed, permeabilized, and incubated with anti-SF1 and anti-DGKZ (B) for 1 h. Coverslips were washed and incubated with anti-fluorescein isothiocyanate and antirhodamine, and immunofluorescence was detected by confocal microscopy.

Citations

- Cyclic AMP-stimulated interaction between steroidogenic factor 1 and diacylglycerol kinase theta facilitates induction of CYP17.