

DGK- α (C-11): sc-271644

BACKGROUND

Diacylglycerol kinases (DGKs) phosphorylate diacylglycerol (DAG) to produce phosphatidic acid. DAG and phosphatidic acid are lipids that act as second messengers in signaling cascades. DGK- α influences cell activation and secretion of lethal exosomes, which in turn control cell death. DGK- β is abundant in restricted brain regions such as the caudate putamen and olfactory tubercle. DGK- γ encodes full-length and truncated transcripts that are present in a range of human tissues, with greatest expression observed in retina. DGK- δ is most abundant in skeletal muscle. DGK- ϵ shows specificity for arachidonyl-containing diacylglycerol and is expressed predominantly in testis. DGK- ζ is most abundant in brain and muscle. DGK- η is closely related to DGK- δ . DGK- θ is most abundant in the cerebellum and hippocampus. DGK- ι is present in brain and retina as a predominant transcript of more than 12 kb, including a long 3' untranslated region, with additional low abundance transcripts of 9.5 and 7.5 kb. DGKs have structural motifs that play regulatory roles, and these motifs form the basis for dividing the DGKs into five subtypes.

CHROMOSOMAL LOCATION

Genetic locus: DGKA (human) mapping to 12q13.2; Dgka (mouse) mapping to 10 D3.

SOURCE

DGK- α (C-11) is a mouse monoclonal antibody raised against amino acids 242-298 mapping within an internal region of DGK- α of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DGK- α (C-11) is available conjugated to agarose (sc-271644 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271644 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271644 PE), fluorescein (sc-271644 FITC), Alexa Fluor[®] 488 (sc-271644 AF488), Alexa Fluor[®] 546 (sc-271644 AF546), Alexa Fluor[®] 594 (sc-271644 AF594) or Alexa Fluor[®] 647 (sc-271644 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271644 AF680) or Alexa Fluor[®] 790 (sc-271644 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

DGK- α (C-11) is recommended for detection of DGK- α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

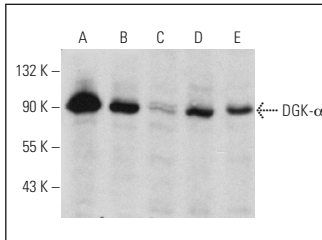
Suitable for use as control antibody for DGK- α siRNA (h): sc-38986, DGK- α siRNA (m): sc-38987, DGK- α shRNA Plasmid (h): sc-38986-SH, DGK- α shRNA Plasmid (m): sc-38987-SH, DGK- α shRNA (h) Lentiviral Particles: sc-38986-V and DGK- α shRNA (m) Lentiviral Particles: sc-38987-V.

Molecular Weight of DGK- α : 86 kDa.

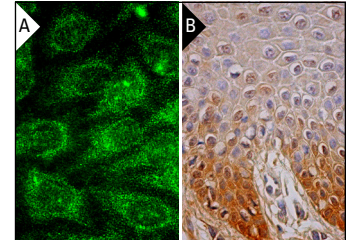
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



DGK- α (C-11): sc-271644. Western blot analysis of DGK- α expression in Jurkat (A), BJAB (B), MH-S (C), NRK (D) and PC-12 (E) whole cell lysates.



DGK- α (C-11): sc-271644. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic and nuclear staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Joshi, R.P., et al. 2013. The ζ isoform of diacylglycerol kinase plays a predominant role in regulatory T cell development and TCR-mediated Ras signaling. *Sci. Signal.* 6: ra102.
- Wang, Y., et al. 2013. DGK α DNA vaccine relieves airway allergic inflammation in asthma model possibly via induction of T cell anergy. *Int. J. Clin. Exp. Pathol.* 6: 2404-2411.
- Day, P., et al. 2019. Inhibitors of diacylglycerol metabolism suppress CCR2 receptor signalling in human monocytes. *Br. J. Pharmacol.* 176: 2736-2749.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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