SANTA CRUZ BIOTECHNOLOGY, INC.

DGK-θ (E-5): sc-137197

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. Schaap, D., et al. 1990. Purification, cDNA-cloning and expression of human diacylglycerol kinase. FEBS Lett. 275: 151-158.
2. Goto, K., et al. 1993. Molecular cloning and expression of a 90-kDa diacylglycerol kinase that predominantly localizes in neurons. Proc. Natl. Acad. Sci. USA 90: 7598-7602.
3. Masai, I., et al. 1993. *Drosophila* retinal degeneration A gene encodes an eye-specific diacylglycerol kinase with cysteine-rich zinc-finger motifs and ankyrin repeats. Proc. Natl. Acad. Sci. USA 90: 11157-11161.

CHROMOSOMAL LOCATION

Genetic locus: DGKQ (human) mapping to 4p16.3; Dgkq (mouse) mapping to 5 F.

SOURCE

DGK-θ (E-5) is a mouse monoclonal antibody raised against amino acids 691-820 mapping near the C-terminus of DGK-θ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DGK-θ (E-5) is available conjugated to agarose (sc-137197 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137197 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137197 PE), fluorescein (sc-137197 FITC), Alexa Fluor® 488 (sc-137197 AF488), Alexa Fluor® 546 (sc-137197 AF546), Alexa Fluor® 594 (sc-137197 AF594) or Alexa Fluor® 647 (sc-137197 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137197 AF680) or Alexa Fluor® 790 (sc-137197 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

DGK-θ (E-5) is recommended for detection of DGK-θ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (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-θ siRNA (h): sc-45681, DGK-θ siRNA (m): sc-45682, DGK-θ shRNA Plasmid (h): sc-45681-SH, DGK-θ shRNA Plasmid (m): sc-45682-SH, DGK-θ shRNA (h) Lentiviral Particles: sc-45681-V and DGK-θ shRNA (m) Lentiviral Particles: sc-45682-V.

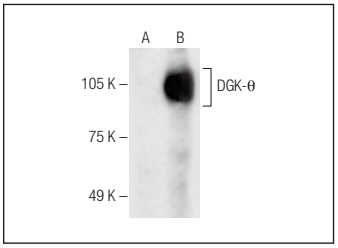
Molecular Weight of DGK-θ: 110 kDa.

Positive Controls: DGK-θ (h): 293T Lysate: sc-117226, rat brain extract: sc-2392 or human cerebral cortex extract: sc-516707.

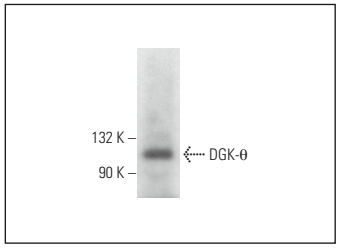
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DGK-θ (E-5): sc-137197. Western blot analysis of DGK-θ expression in non-transfected: sc-117752 (**A**) and human DGK-θ transfected: sc-117226 (**B**) 293T whole cell lysates.



DGK-θ (E-5): sc-137197. Western blot analysis of DGK-θ expression in human cerebral cortex tissue extract.

SELECT PRODUCT CITATIONS

1. 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.