

DGK- θ (K-13): sc-46577

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-prime 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

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2. Sakane, F., et al. 1997. Molecules in focus: diacylglycerol kinase. *Int. J. Biochem. Cell Biol.* 29: 1139-1143.
3. Houssa, B., et al. 1999. Diacylglycerol kinase θ binds to and is negatively regulated by active RhoA. *J. Biol. Chem.* 274: 6820-6822.
4. Bregoli, L., et al. 2001. Nuclear diacylglycerol kinase- θ is activated in response to α -Thrombin. *J. Biol. Chem.* 276: 23288-23295.
5. Tabellini, G., et al. 2003. Diacylglycerol kinase- θ is localized in the speckle domains of the nucleus. *Exp. Cell. Res.* 287: 143-154.
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CHROMOSOMAL LOCATION

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

SOURCE

DGK- θ (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DGK- θ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-46577 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DGK- θ (K-13) is recommended for detection of DGK- θ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

DGK- θ (K-13) is also recommended for detection of DGK- θ in additional species, including equine, canine and bovine.

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: Rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.