

# DGK-ε (E-19): sc-18303

## 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. Hodgkin, M.N., et al. 1996. Regulation of "signalling diacylglycerol" in cells: the importance of diacylglycerol kinase. *Biochem. Soc. Trans.* 24: 991-994.
2. Tang, W., et al. 1996. Molecular cloning of a novel human diacylglycerol kinase highly selective for arachidonate-containing substrates. *J. Biol. Chem.* 271: 10237-10241.
3. Kohyama-Koganeya, A., et al. 1997. Molecular cloning of a diacylglycerol kinase isozyme predominantly expressed in rat retina. *FEBS Lett.* 409: 258-264.
4. Sakane, F., et al. 1997. Molecules in focus: diacylglycerol kinase. *Int. J. Biochem. Cell Biol.* 29: 1139-1143.
5. Ebinu, J.O., et al. 1998. RasGRP, a Ras guanyl nucleotide- releasing protein with calcium- and diacylglycerol-binding motifs. *Science* 280: 1082-1086.

## CHROMOSOMAL LOCATION

Genetic locus: DGKE (human) mapping to 17q22; Dgke (mouse) mapping to 11 C.

## SOURCE

DGK-ε (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DGK-ε of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-18303 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

DGK-ε (E-19) is recommended for detection of DGK-ε of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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). DGK-ε (E-19) is also recommended for detection of DGK-ε in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for DGK-ε siRNA (h): sc-38989, DGK-ε siRNA (m): sc-38990, DGK-ε shRNA Plasmid (h): sc-38989-SH, DGK-ε shRNA Plasmid (m): sc-38990-SH, DGK-ε shRNA (h) Lentiviral Particles: sc-38989-V and DGK-ε shRNA (m) Lentiviral Particles: sc-38990-V.

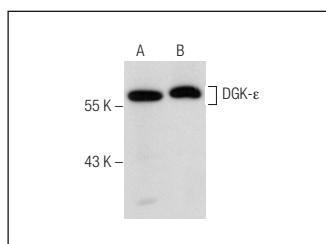
Molecular Weight of DGK-ε: 64 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, mouse testis extract: sc-2405 or rat testis extract: sc-2400.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



DGK-ε (E-19): sc-18303. Western blot analysis of DGK-ε expression in mouse testis (A) and rat testis (B) tissue extracts.

## RESEARCH USE

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

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Try **DGK-ε (AA9): sc-100372**, our highly recommended monoclonal alternative to DGK-ε (E-19).