SANTA CRUZ BIOTECHNOLOGY, INC.

DGK-ζ (N-19): sc-8721

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The accumulation of diacylglycerol in the nucleus is important for the regulation of cell growth and differentiation. Diacylglycerol kinases (DGKs) convert diacylglycerol to phosphatidic acid, thereby terminating diacylglycerol signaling, resulting in the reduction of protein kinase C activity and cell cycle progression of T-lymphocytes. Diacylglycerol kinases are divided into five subtypes, Type I – Type V. DGK-α, DGK-β and DGK-γ are Type I DGKs; DGK-δ and DGK-˙ are Type II DGKs; DGK-ε is a Type III DGK; DGK-ζ is a Type IV DGK; and DGK-θ is a Type V DGK. DGK-ζ nuclear localization is regulated by PKC α or PKC γ.

REFERENCES

1. Olson, E.N., et al. 1993. Protein kinase C as a transducer of nuclear signals. Cell Growth Differ. 4: 699-705.
2. Alberts, B., et al. 1994. Molecular Biology of the Cell third edition. New York: Garland Publishing Inc., 747-748.
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4. Sakane, F., et al. 1997. Molecules in focus: diacylglycerol kinase. Int. J. Biochem. Cell. Biol. 29: 1139-1143.
5. Topham, M.K., et al. 1998. Protein kinase C regulates the nuclear localization of diacylglycerol kinase-ζ. Nature. 394: 697-700.
6. van Blitterswijk, W.J., et al. 1999. Diacylglycerol kinases in signal transduction. Chem. Phys. Lipids. 98: 95-108.
7. Santos, T., et al. 2002. Dynamics of diacylglycerol kinase ζ translocation in living T-cells. Study of the structural domain requirements for translocation and activity. J. Biol. Chem. 277: 30300-30309.
8. Luo, B., et al. 2003. Protein kinase C α phosphorylates and negatively regulates diacylglycerol kinase ζ. J. Biol. Chem. 278: 39542-39547.
9. Abramovici, H., et al. 2003. Diacylglycerol kinase-ζ localization in skeletal muscle is regulated by phosphorylation and interaction with syntrophins. Mol. Biol. Cell. 14: 4499-4511.

SOURCE

DGK-ζ (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of DGK-ζ 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-8721 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-ζ(N-19) is recommended for detection of DGK-ζof 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).

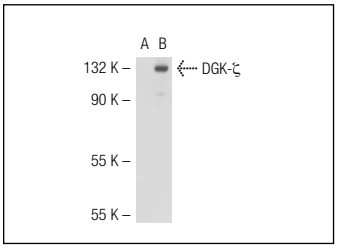
DGK-ζ (N-19) is also recommended for detection of DGK-ζ in additional species, including canine, bovine and porcine.

Molecular Weight of DGK-ζ: 130 kDa.

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-ζ (N-19): sc-8721. Western blot analysis of DGK-ζ expression in non-transfected: sc-117752 (**A**) and mouse DGK-ζ transfected: sc-126726 (**B**) 293T whole cell lysates.

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.