

CaMKII δ (h): 293T Lysate: sc-115074

BACKGROUND

The Ca²⁺/calmodulin-dependent protein kinases (CaM kinases) comprise a structurally related subfamily of serine/threonine kinases which include CaMKI, CaMKII and CaMKIV. CaMKII is an ubiquitously expressed serine/threonine protein kinase that is activated by Ca²⁺ and calmodulin (CaM) and has been implicated in regulation of the cell cycle and transcription. There are four CaMKII isozymes, designated α , β , γ and δ , which may or may not be coexpressed in the same tissue type. CaMKIV is stimulated by Ca²⁺ and CaM but also requires phosphorylation by a CaMK for full activation. Stimulation of the T cell receptor CD3 signaling complex with an anti-CD3 monoclonal antibody leads to a 10-40 fold increase in CaMKIV activity. An additional kinase, CaMKK, functions to activate CaMKI through the specific phosphorylation of the regulatory threonine residue at position 177.

REFERENCES

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3. Baltas, L.G., Karczewski, P. and Krause, E.G. 1995. The cardiac sarcoplasmic reticulum phospholamban kinase is a distinct δ -CaM kinase isozyme. *FEBS Lett.* 373: 71-75.
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6. Tashima, K., Yamamoto, H., Setoyama, C., Ono, T. and Miyamoto, E. 1996. Overexpression of Ca²⁺/calmodulin-dependent protein kinase II inhibits neurite outgrowth of PC-12 cells. *J. Neurochem.* 66: 57-64.

CHROMOSOMAL LOCATION

Genetic locus: CAMK2D (human) mapping to 4q26.

PRODUCT

CaMKII δ (h): 293T Lysate represents a lysate of human CaMKII δ transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

CaMKII δ (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CaMKII δ antibodies. Recommended use: 10-20 μ l per lane.

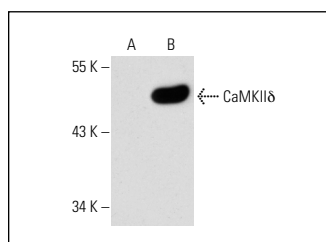
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CaMKII δ (L-04): sc-100362 is recommended as a positive control antibody for Western Blot analysis of enhanced human CaMKII δ expression in CaMKII δ transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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.

DATA



CaMKII δ (L-04): sc-100362. Western blot analysis of CaMKII δ expression in non-transfected: sc-117752 (A) and human CaMKII δ transfected: sc-115074 (B) 293T whole cell lysates.

PROTOCOLS

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