**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 a ubiquitously expressed serine/threonine protein kinase that is activated by Ca²⁺ and 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 types. 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**


**SOURCE**

p-CaMKII (22B1) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to residues 281-294 CaM kinase II α subunit of rat origin.

**PRODUCT**

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

p-CaMKII (22B1) is available conjugated to agarose (sc-32289 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32289 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-32289 PE), fluorescein (sc-32289 FITC), Alexa Fluor® 488 (sc-32289 AF488) or Alexa Fluor® 647 (sc-32289 AF647), 200 µg/ml, for IF, IHC(P) and FCM.

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**APPLICATIONS**

p-CaMKII (22B1) is recommended for detection of Thr 286 phosphorylated CaMKII 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of p-CaMKII: 50 kDa.

Positive Controls: rat brain extract: sc-2392 or Sol8 cell lysate: sc-2249.

**STORAGE**

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

**RESEARCH USE**

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

**DATA**


**SELECT PRODUCT CITATIONS**


**PROTOCOLS**

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