



CaMKII (1-300): sc-4703

BACKGROUND

The Ca^{2+} /calmodulin-dependent protein kinases (CaM kinases) are a structurally related subfamily of serine/threonine kinases that includes CaMKI, CaMKII and CaMKIV. CaMKII is a ubiquitously expressed serine/threonine protein kinase that is activated by Ca^{2+} 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 co-expressed in the same tissue type. CaMKIV is stimulated by Ca^{2+} and CaM, but phosphorylation by a CaMK is also required 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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SOURCE

CaMKII (1-300) is expressed in *E. coli* as a 60 kDa tagged fusion protein corresponding to amino acids 1-300 of CaMKII of human origin.

PRODUCT

CaMKII (1-300) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 50 μg purified protein in PBS containing 5 mM DTT and 50% glycerol.

STORAGE

Store at -20°C ; stable for one year from the date of shipment.

APPLICATIONS

CaMKII (1-300) is suitable as a substrate for PKC α : sc-4820 and as a Western blotting control for sc-13082.

RESEARCH USE

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