Human CaM Kinase I Alexa Fluor® 594-conjugated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7899T
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects recombinant human CaM Kinase Iα in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human CaMKIV is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human CaM Kinase Iα Ser176-Arg254 (Ala224Ser) Accession # Q14012
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

CaMKI (Calcium/Calmodulin-dependent kinase I) is a 37-43 kDa monomeric and cytosolic member of the CaMK subfamily, Ser/Thr protein kinase family, protein kinase superfamily of molecules. It is found in multiple cell types, including adrenal cortical cells, neurons and macrophages/osteoclast precursors. CaMKI is associated with the cellular Ca^{++} signaling pathway. Upon entry into the cell, calcium levels are sensed by calmodulin. Upon Ca^{++} binding, calmodulin (and CaMK kinase) interacts with a Ser/Thr protein kinase termed CaMKIa. CaMKIa is of particular interest in neurons and cells of the zona glomerulosa. In neurons, CaMKIa activation results in the recruitment of AMPA-Rs and the promotion of axon growth (vs.dendrite outgrowth which is promoted by CaMKIg). In the adrenal gland, CaMKIa regulates CYP11B2 transcription, and thus the ability to synthesize aldosterone. Human CaMKI, the isoform used for immunization, is 370 amino acids (aa) in length (SwissProt #:Q14012). It contains one protein kinase domain (aa 20-276) followed by a calmodulin-binding region (aa 296-317) and an NES (aa 315-321). Over aa 178-257, human and mouse CaMKI are identical in amino acid sequence. There are three additional CaMKI isoforms (b, g, d), all the product of distinct genes. Nevertheless, over the same aa sequence, these three isoforms (b, g, d) share 80%, 81% and 97% aa sequence identity with CaMKI(a), respectively.

PRODUCT SPECIFIC NOTICES

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