

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Casein Kinase 2α in ELISAs and Western blots. Detects mouse and rat Casein Kinase 2α in Western blots
Source	Monoclonal Mouse IgG ₁ Clone # 844720
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Casein Kinase 2α Asp253-Gln391 Accession # P68400
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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.

Knockout Validated	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	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

Casein kinase 2 (CK2) is a ubiquitous and constitutively active tetrameric serine/threonine kinase that is comprised of two catalytic subunits (CK2α and/or CK2α') and two identical regulatory subunits (CK2β). CK2 has been implicated in numerous cellular processes, including signal transduction, transcription, translation, replication, and metabolic pathways. CK2 is known to phosphorylate more than 300 different substrates. Phosphorylation of cell-cycle proteins such as p53, p34cdc2, p27KIP1, and MDM-2 account for the ability of CK2 to induce proliferation, while the phosphorylation of HS1, Bid, and Max account for its antiapoptotic role. The human CK2α and CK2α' subunits are the products of two different genes. They have highly conserved catalytic domains but divergent C-terminal regions. Within aa 253-391 (including the region of divergence between CK2α and CK2α'), the 35-45 kDa human CK2α shares 96% aa sequence identity with mouse and rat CK2α. An alternatively spliced isoform of human CK2α lacks the N-terminal 136 amino acids including a portion of the kinase domain. CK2β plays dual roles in the regulation of CK2 activity. Its C-terminal domain is responsible for stable interactions with the catalytic subunit and increased catalytic activity following tetramer formation, while the N-terminal domain exerts negative regulation on the catalytic activity of CK2.

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