Data Sheet (Cat.No.TMPY-04372)

TargetMol

CK2 alpha/CSNK2A1 Protein, Human, Recombinant (GST)

General Information

Synonyms:	CK2 α/CSNK2A1;CKII;CSNK2A3;CK2A1;casein kinase 2, α1 polypeptide;casein kinase 2, alpha 1 polypeptide
Protein Construction:	A DNA sequence encoding the human CSNK2A1 isoform 1 (NP_808227.1) (Met 1-Gln 391) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P68400-1
Molecular Weight:	71.4 kDa (predicted); 65 kDa (reducing conditions)

QC Testing

Biological Activity:	The specific activity was determined to be 9 nmol/min/mg using casein as substrate.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 50 mM Tris, 100 mM NaCl, 0.5 mM PMSF, 0.5 mM GSH, pH 8.0.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Casein kinase II subunit alpha, also known as CK II alpha, CSNK2A1 and CK2A1, is a member of the protein kinase superfamily, Ser / Thr protein kinase family and CK2 subfamily. Casein kinase II (CSNK2A1) is a serine / threonine protein kinase that phosphorylates acidic proteins such as casein. This kinase is composed of an alpha, an alpha-prime, and two beta subunits. The alpha subunits contain the catalytic activity while the beta subunits undergo autophosphorylation. Casein kinase II (CSNK2A1) is a constitutively active, ubiquitously expressed serine / threonine protein kinase that is thought to have a regulatory function in cell proliferation, cell differentiation and apoptosis. CSNK2A1 functions as a tetrameric complex consisting of two regulatory beta-subunits and two catalytic units (alpha and alpha') in a homomeric or heteromeric conformation. Whilst the alpha- and alpha'-

subunits are catalytically identical, proteins that regulate CSNK2A1, such as cdc2 and Hsp90, preferentially bind to the alpha and not the alpha'-subunit. CSNK2A1 can phosphorylate a number of key intracellular signaling proteins implicated in tumor suppression (p53 and PTEN) and tumorigenesis (myc, jun, NF-kappaB). CSNK2A1 is also thought to influence Wnt signaling via beta-catenin phosphorylation and the PI 3-K signaling pathway via the phosphorylation of Akt.

Reference

Schlpfer J,et al.(1997) A radiation hybrid framework map of bovine chromosome 13. Chromosome Res. 5(8): 511-9.
Wirkner U,et al.(1994) The human gene (CSNK2A1) coding for the casein kinase II subunit alpha is located on chromosome 20 and contains tandemly arranged Alu repeats. Genomics. 19(2): 257-65.
Wirkner U,et al.(1998) Genomic organization and promoter identification of the human protein kinase CK2 catalytic subunit alpha (CSNK2A1). Genomics. 48(1): 71-8.

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