

## Recombinant Human CSNK2A2, GST-tagged

Cat. No. CSNK2A2-682H Lot. No. (See product label)

### SPECIFICATION

#### Product Overview

Recombinant full length human CSNK2A2 with GST tag was expressed in *insect cells*. MW = 69.2 kDa.

#### Species

Human

#### Source

Insect Cells

#### Description

Casein kinase 2 (CK2) is a ubiquitous pleiotropic proliferation-associated serine/threonine protein kinase. The enzyme is probably present in all eukaryotic cells, implying that it has fundamental cellular functions. Similar to protein kinase A, CK2 is a tetramer containing 2  $\alpha$ -prime subunits (or one of each) and 2  $\beta$ -subunits. The subunit fills a regulatory role in the holoenzyme. The catalytic  $\alpha$ -subunit corresponds to the C-subunit of PKA, the non-catalytic-subunit is unique and differs from the Rsubunit of PKA in all known features. The  $\alpha$ -prime subunits are the catalytic subunits with distinct sequences and are encoded by different genes. Whereas the CK2  $\alpha$ -subunit is found ubiquitously in all cells and organs the CK2  $\alpha$ -prime subunit is preferentially found in brain and testis. Recently it was shown that the  $\alpha$ -subunit is trifunctional: (i) it confers stability to the holoenzyme, (ii) it increases enzyme activity, and (iii) it determines substrate specificity. Disruption of the CK2 alpha prime gene in mice results in oligospermia and globozoospermia. Thus, the CK2 alpha prime gene may be a candidate gene for inherited abnormalities of sperm morphogenesis The human recombinant protein kinase CK2 was expressed in *E. coli* as a N-MBP fusion protein.

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<b>Formulation</b>	Liquid in 50 mM Tris, pH 7.5 + 150 mM NaCl + 0.5 mM EDTA + 0.02% Triton X-100 + 2mM DTT + 50% glycerol.
<b>Purity</b>	≥ 90% as determined by SDS-PAGE analysis.
<b>Specific Activity</b>	330 nmole of phosphate transferred to CK2 peptide substrate (RRRDDDSDDD) per minute per mg of total protein at 30°C. Activity determined at a final protein concentration of 1.67 µg/ml.
<b>Storage &amp; Stability</b>	Stable for 6 months in working aliquots at -80°C. Avoid repeated freeze-thaw cycles.
<b>Full Length</b>	Full L.

## GENE INFORMATION

<b>Gene Name</b>	CSNK2A2 casein kinase 2, alpha prime polypeptide [ Homo sapiens ]
<b>Synonyms</b>	CSNK2A2; casein kinase 2, alpha prime polypeptide; CK2A2; CSNK2A1; FLJ43934; EC 2.7.11.1; CK II; Casein kinase II subunit alpha
<b>Gene ID</b>	1459
<b>mRNA Refseq</b>	NM_001896
<b>Protein Refseq</b>	NP_001887
<b>MIM</b>	115442
<b>UniProt ID</b>	P19784
<b>Chromosome</b>	16

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**Location**

**Pathway**

Adherens junction; Tight junction; Wnt signaling pathway

**Function**

ATP binding; nucleotide binding; protein N-terminus binding; protein serine/threonine kinase activity; transferase activity

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