

P R O D U C T D A T A S H E E T**CK2 Assay Kit 2**

Casein Kinase 2 (CK2, GLO112-001) is a tetrameric protein serine/threonine kinase that is ubiquitously distributed in eukaryotes cells and occurs in the cytoplasm, nucleus and mitochondria. The enzyme is an important component of signal transduction pathways, regulates cell growth, division and differentiation, and the activities of a variety of oncoproteins and transcription factors including c-Myc, c-Myb, serum response factor, c-Fos and c-Jun (GLO127-001, GLO127-005). The kinase also plays an important role in cell survival and protects regulatory proteins from caspase-mediated degradation in apoptosis. Individual CK2 subunits have been recently shown to exist outside tetrameric complexes. Additionally, CK2 was reported to display dual specificity protein kinase activity.

GloboZymes CK2 Assay Kit 2 is useful for determining the activity of CK2 or related protein serine kinase, to evaluate the effect of a test substance, or to identify new physiological substrates of the enzyme. The kit provides for 200 assays. Assay is based on the reaction of CK2 or related kinase with casein and [32 P]ATP. The kit includes directional insert, and contains solutions of MgATP, casein, heparin, assay and dilution buffers. Unlike GLO112-01, a purified CK2 sample is not included with CK2 Assay Kit 2. [32 P]ATP and trichloroacetic acid are also not provided with the kit.

References:

Ahmed K et al (1985) "Characteristics of polyamine stimulation of cyclic nucleotide-independent protein kinase reactions" *Biochem J* 232, 767; **Damuni Z & Reed LJ** (1988) "Purification and properties of a protamine kinase and a type II casein kinase from bovine kidney mitochondria" *Arch Biochem Biophys* 262, 574; **Pina LA** (1990) *Biochim Biophys Acta* 1054, 267; **Damuni Z** (1990) "Inactivation of bovine kidney cytosolic protamine kinase by the catalytic subunit of protein phosphatase 2A" *Biochem Biophys Res Commun* 166, 449; **Pina LA & Maggio F** (1997) "Protein kinase CK2 ("casein kinase-2") and its implication in cell division and proliferation" *Prog Cell Cycle Res* 3, 77; **Blanquet PR** (2000) "Casein kinase 2 as a potentially important enzyme in the nervous system" *Prog Neurobiol* 60, 211; **Faust M & Montenarh M** (2000) "Subcellular localization of protein kinase CK2. A key to its function?" *Cell Tissue Res* 301, 329; **Ahmed K et al** (2002) "Joining the cell survival squad: an emerging role for protein kinase CK2" *Trends Cell Biol* 12, 226; **Litchfield DW** (2003) "Protein kinase CK2: structure, regulation and role in cellular decisions of life and death" *Biochem J* 369, 1

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