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ProductInformation

Cyclic AMP- dependent Protein Kinase Catalytic Subunit, His-tagged
Human Recombinant

Product Number **C 8482**
Storage Temperature –70 °C

Product Description

Cyclic AMP-dependent protein kinase catalytic subunit (PKA, cAPK catalytic subunit) is the catalytic dimer portion of the inactive tetrameric holoenzyme. Under reaction conditions the dimer separates into the enzymatically active monomeric subunit. PKA is a serine/threonine protein kinase that can phosphorylate a large number of proteins. It is involved in the regulation of cell signaling, cell growth and differentiation, apoptosis, and other processes.

cAMP-dependent protein kinase (cAPK) is a tetrameric holoenzyme that consists of two catalytic and two regulatory subunits. It is activated when cAMP binds to the regulatory subunits releasing the enzymatically active monomeric units. The addition of cAMP to PKA is not necessary for activity.

Human PKA catalytic subunit has a calculated molecular weight of 43.5 kDa. It is human recombinant, histidine-tagged type α catalytic subunit overexpressed in *E. coli*.

Product Profile

PKA catalytic subunit is supplied as a solution in 30 mM potassium phosphate, pH 7.4, 50% glycerol, 150 mM KCl, 1 mM EDTA, and 1 mM DTT.

Unit definition: One unit will transfer 1 nanomole of phosphate from ^{32}P-ATP to Kemptide substrate per minute at pH 7.4 at 30 °C.

Storage/Stability

Store product at –70 °C.

References

1. Skalhegg, B. S., and Tasken, K., Specificity in the cAMP/PKA signaling pathway. Differential expression,regulation, and subcellular localization of subunits of PKA. Front. Biosci., **5,** D678-D693 (2000).
2. Cross, T. G., et al., Serine/threonine protein kinases and apoptosis. Exp.Cell Res., **256,** 34-41 (2000).
3. Taylor, S. S., et al., Catalytic subunit of cyclic AMP-dependent protein kinase: structure and dynamics of the active site cleft. Pharmacol. Ther., **82,** 133-141 (1999).

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