Recombinant Human Casein Kinase 2α

Catalog Number: 7957-CK

DESCRIPTION

Source	*E. coli*-derived human Casein Kinase 2 alpha protein Asp253-Gln391, with an N-terminal Met and C-terminal 6-His tag Accession # P68400-1
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	16 kDa

SPECIFICATIONS

SDS-PAGE	14-16 kDa, reducing conditions
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Supplied as a 0.2 µm filtered solution in MES, NaCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 6 months from date of receipt, -20 to -70 °C as supplied. ● 3 months, -20 to -70 °C under sterile conditions after opening.

BACKGROUND

Casein kinase II is a serine/threonine protein kinase that phosphorylates acidic proteins such as casein (1). It is involved in various cellular processes, including cell cycle control, apoptosis, and circadian rhythm (2). The kinase exists as a tetramer and is composed of an α, an α', and two β subunits (3). The α subunits contain the catalytic activity while the β subunits undergo autophosphorylation. The Recombinant Human Casein Kinase 2α contains amino acid 253 to 391 of the α subunit, which includes an O-GlcNAcylation site at Ser347 (4). O-GlcNAcylation of Casein Kinase 2α not only regulates its kinase substrate specificity, but also regulates the stability of the protein. The Recombinant Human Casein Kinase 2α is an ideal model protein for studying O-GlcNAcylation. It can be O-GlcNAcylated by OGT, the enzyme that introduces O-GlcNAc to target proteins. The introduced O-GlcNAc residue can be detected by Recombinant Human B3GALNT2 (Cat# 1848-GT), a GalNAc transferase that is highly active on O-GlcNAc (5).

References:

1. Ahmad, K.A. *et al.* (2008) Adv. Enzyme Regul. **48**:179.
2. Rabalski, A.J. *et al.* (2016) Clinical Cancer Research **22**:2840.
3. Litchfield, D.W. (2003) Biochem. J. **369**:1.
4. Tarrant, M.K. *et al.* (2012) Nat. Chem. Biol. **8**:262.
5. Wu, Z.L. *et al.* (2018) Cell Chem. Biol. DOI:https://doi.org/10.1016/j.chembiol.2018.07.007.

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