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ProductInformation

Ubiquitin Carrier Protein H3
human, recombinant
expressed in *E. coli*

Product Number **U2383**
Storage Temperature –70 °C

Synonyms: Cdc34; UbcH3

Product Description

Ubiquitin carrier protein H3 is a 32 kDa, His-tagged, human, recombinant protein expressed in *E. Coli*.

The ubiquitin proteolytic system plays an important role in a broad array of basic cellular processes. Among these are regulation of cell cycle, modulation of the immune and inflammatory responses, development and differentiation, and control of signal transduction pathways. These complex processes are controlled via specific degradation of a single or a subset of proteins. Degradation of a protein by the ubiquitin system involves two successive steps, conjugation with multiple moieties of ubiquitin and degradation of the ubiquitin tagged protein by the 26S proteasome.[1]

Ubiquitin carrier protein H3 is essential for viability in yeast. Ubitquitin-carrier protein H3 mediates the transition from G_1 to S-phase of the cell cycle by degrading the S-phase cyclin/CDK inhibitor SIC1 in yeast and p27 (KIP1) in human.[2] Cdc34 is also known to interact with the Skp1/Cdc53/F-box (SCF) ubiquitin ligase subunit Cul1 to degrade the NF-κB inhibitor I-κBα in a phosphorylation dependent manner.[3] Typical enzyme concentrations to support *in vitro* conjugation are in the range of 100 nM to 1 µM depending on conditions.

This product is supplied as a solution in 50 mM HEPES, pH 8.0, 50 mM NaCl, 10% glycerol, and 1 mM DTT.

Purity: minimum 95% (SDS-PAGE)

Precautions and Disclaimer

This product is for laboratory research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

This product ships on dry ice and storage at –70 °C is recommended. The product is stable through multiple freeze/thaw cycles.

References

1. Ciechanover, A., The Ubiquitin-mediated proteolytic pathway: mechanisms of action and cellular physiology. Biol. Chem. Hoppe-Seyler, **375**, 565-581 (1994).
2. Goebl, M.G., et al., The yeast cycle gene CDC34 encodes a ubiquitin-conjugating enzyme. Science, **9**, 1331-1335 (1988).
3. Pati, D., et al., Human Cdc34 and Rad6B ubiquitin-conjugating enzymes target repressors of cyclic AMP-induced transcription for proteolysis. Mol. Cell Biol., **19**, 5001-5013 (1999).

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