

Product Information

UBIQUITIN-CARRIER PROTEIN H5c, GST TAGGED

Human, Recombinant

Expressed in *E. coli*

Product Number **U 8882**

Product Description

Ubiquitin-carrier Protein H5c (UbcH5c), GST-tagged is produced from a DNA sequence corresponding to human Ubc5c fused to a Glutathione S-transferase tag. This recombinant protein has a molecular weight of approx. 47 kDa.

Degradation of short-lived, key regulatory proteins by the ubiquitin-proteasome pathway plays key roles in a number of cellular processes. A number of proteins are degraded by this system including: cyclins, cyclin-dependent kinases^{1,2} and their inhibitors, tumor suppressors, oncoproteins, and transcriptional activators and their inhibitors.

Two discrete steps are involved in the ubiquitin-mediated degradation of proteins: signaling by covalent conjugation of multiple ubiquitin moieties and degradation of the tagged substrate. Conjugation occurs by a three-step mechanism involving three different enzymes that act sequentially: E1, E2 and E3. Ubiquitin-activating enzyme (E1) catalyzes the activation of ubiquitin then E2 (ubiquitin-conjugating enzyme, or ubiquitin carrier protein) transfers activated ubiquitin to E3, which is bound to substrate. E3 catalyzes the polyubiquitination of the targeted protein. The polyubiquitin tagged protein is then degraded by the 26S proteasome in an ATP-dependent process, and free ubiquitin is released.³⁻⁵

Although it appears there is a single ubiquitin-activating enzyme (E1), a number of species or isoforms of ubiquitin-carrier proteins (E2s) and multiple families of ubiquitin-protein ligases (E3s) exist.⁶ Specific E2s may have overlapping functions or may be involved in specific cellular functions. UbcH5c mediates the degradation a myriad of short-lived regulatory proteins including the tumor suppressor p53 in the presence of E6/E6-AP or MDM2, the c-Fos transcription factor, and the signal-induced ubiquitination of I κ B α , the processing of precursor of NF- κ B1 p105.⁷⁻¹²

Reagent

UbcH5c, GST-tagged is supplied as 100 μ g protein in a solution of 50 mM HEPES, pH 7.6, 50 mM NaCl, 1 mM DTT, and 10% glycerol.

Precautions and Disclaimer

For laboratory use only. Not for drug, household or other uses. Please consult the Material Safety Data Sheet for handling recommendations before working with this material.

Storage/Stability

Store at -70°C . Avoid repeated freeze-thaw cycles. Do not store in a frost-free freezer.

Product Profile

Purity: minimum 95% by SDS-PAGE

References

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