Lot # XXXXX

BostonBiochem

MATERIAL DATA SHEET

Ubiquitin, *human recombinant*
Cat. # U-100H

Ubiquitin is a 76 amino acid (aa) protein that is ubiquitously expressed in all eukaryotic organisms. Ubiquitin is highly conserved with 96% aa sequence identity shared between human and yeast ubiquitin, and 100% aa sequence identity shared between human and mouse ubiquitin. In mammals, four ubiquitin genes encode for two ubiquitin-ribosomal fusion proteins and two poly-ubiquitin proteins. Cleavage of the ubiquitin precursors by deubiquitinating enzymes gives rise to identical ubiquitin monomers each with a predicted molecular weight of 8.6 kDa. Conjugation of ubiquitin to target proteins involves the formation of an isopeptide bond between the C-terminal glycine residue of ubiquitin and a lysine residue in the target protein. This process of conjugation, referred to as ubiquitination or ubiquitylation, is a multi-step process that requires three enzymes: a Ubiquitin-Activating Enzyme (E1), a Ubiquitin-Conjugating (E2) enzyme, and a Ubiquitin ligase (E3). Ubiquitination is classically recognized as a mechanism to target proteins for degradation and as a result, ubiquitin was originally named ATP-dependent Proteolysis Factor 1 (APF-1). In addition to protein degradation, ubiquitination has been shown to mediate a variety of biological processes such as signal transduction, endocytosis, and post-endocytic sorting. Highly purified ubiquitin processed for the quantitative removal of glycine and buffer salts which can interfere with chemical and *in vitro* reactions.

Product Information	
Quantity:	10 mg, lyophilized powder
MW:	8.6 kDa
Solubility:	Reconstitute at 10 mg/ml in aqueous buffer
Purity:	> 95% by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie Blue stain

Use & Storage	
Use:	Recombinant Human ubiquitin can be conjugated to substrate proteins via the subsequent actions of a Ubiquitin-Activating Enzyme (E1), a Ubiquitin-Conjugating Enzyme (E2), and a Ubiquitin Ligase (E3). Reaction conditions will need to be optimized for each specific application. We recommend an initial ubiquitin concentration of 0.01 - 1.0 mM.
Storage:	Lyophilized powder at -20°C. Reconstituted stock solution at -20°C. Avoid multiple freeze/thaw cycles.

840 Memorial Drive, Cambridge, MA 02139 Phone: 617-576-2210 FAX: 617-492-3565
www.bostonbiochem.com

Literature

References:

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