

MATERIAL DATA SHEET

Recombinant Human Ubiquitin Mutant No K

Cat. # UBM-NoK

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 polyubiquitin 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 multistep process that requires three enzymes: a Ubiquitin activating (E1) enzyme, 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 (APF1). In addition to protein degradation, ubiquitination has been shown to mediate a variety of biological processes such as signal transduction, endocytosis, and postendocytic sorting. This Ubiquitin mutant contains no lysine residues, with all lysines mutated to arginine. This mutation renders Ubiquitin unable to form isopeptide linked poly Ubiquitin chains and is useful as a negative control.

Product Information

Quantity: 1 mg

MW: 8.8 kDa

Source: E. coli derived

Stock: Lyophilized from a solution in deionized water.

Solubility: Reconstitute at 10 mg/mL in an aqueous solution.

Purity: > 95% by SDS-PAGE

Use: Use: Recombinant Human Ubiquitin Mutant NoK can be conjugated to substrate proteins via the subsequent actions of a Ubiquitin activating (E1) enzyme, a Ubiquitin conjugating (E2) enzyme, and a Ubiquitin ligase (E3). Recombinant Human Ubiquitin Mutant NoK is unable to form chains, making it ideal for use as a negative control for chain formation or to confirm multimono ubiquitination of a substrate. Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human Ubiquitin Mutant NoK concentration of 0.21mM

Storage: Use a manual defrost freezer and avoid repeated freeze thaw cycles.
12 months from date of receipt, -20 to -70 °C as supplied.
3 months, -20 to -70 °C under sterile conditions after reconstitution.