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# Ubiquitination

National Cancer Institute

## Source

National Cancer Institute. *Ubiquitination*. NCI Thesaurus. Code C19358.

Ubiquitin is a family of widely distributed proteins found in all eukaryotes that contain a highly conserved sequence of 76 amino acids identical in organisms from humans to insects. It participates in diverse cellular functions by conjugation to other proteins through its carboxy terminus. Ubiquitination is associated with many highly regulated biological events including protein degradation, chromatin remodelling, heat shock, cell cycle progression, differentiation, antigen presentation, retrovirus assembly, apoptosis, signal transduction, transcriptional activation, biological clocks, receptor down regulation, and endocytosis. Protein ubiquitination regulates the half-lives of many proteins by targeting them for degradation. Newly discovered families of ubiquitination and deubiquitination enzymes participate in these processes. Ubiquitination enzymes may provide new therapeutic targets and ways of intervention in many human diseases.