

Proteolysis and Proteolytic Pathways - Life after the Point of No Return

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Proteolysis is the irreversible post-translational modification affecting a specific peptide bond in a target protein substrate. This event normally leads to a loss or gain of function in the proteolyzed protein. Limited proteolysis is widely used to regulate almost all of the known biological pathways in living organisms. Over 500 specialized protease enzymes, one of the largest classes of enzymes, are encoded by the human genome. The proteolysis is “a one-way road” process that cannot be turned back or start all over again. During the proteolysis the target protein has to pass some kind of “the point of no return”, after which, it will be directed on the principally new way or the new step of its life. At the molecular level, proteolysis accompanies multiple steps of the protein’s life, normally, from the very first and to the very last stages.

In contrast with the physiological proteolysis, that takes place under normal developmental situations, abnormal proteolysis is associated with many pathologies and diseases, including cancer progression and metastasis and cardiovascular, neurological and infectious diseases. As a result, multiple and diversified proteinases, their protein substrates and natural inhibitors are the promising diagnostic and therapeutic targets in humans.

The main goal of the Journal of Proteolysis, the specialized scholarly journal that uses the open access publishing model, is to provide the researchers all around the world with unrestricted online access to the manuscripts published in the journal. Conversely, we encourage the researchers to publish in the Journal of Proteolysis their high-quality, innovative and original research papers related to proteolysis and proteolytic pathways.

The Journal of Proteolysis topics include, but are not limited to:

- Structural and functional analysis of proteinases
- Proteolytic pathways in cellular regulations
- Structural and functional studies of proteinases
- Post-translational proteolytic processing and protein degradation
- Proteolytic events in diseases and proteomics studies

- Characterization of viral, microbial, plant and mammalian proteinases
- Proteinases in host-pathogen interactions
- Natural proteinase inhibitors
- Drug design studies of proteinases inhibitors
- Proteinases and their inhibitors in medicine and medical applications
- Tools, new methods and laboratory applications related to proteolytic events and proteinases.

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