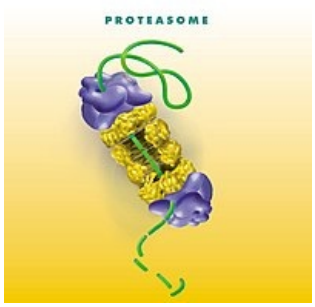
Degradation of proteins

In eukaryotic cells, there are two main ways in which proteins are broken down into peptide residues:

1. **Autophagy** (from the Greek for "self-eating"), which removes long-lived proteins or larger structures such as organelles, by transporting them to the lysosome, where they are cleaved[1].
2. Proteins that have a shorter lifespan, which is the vast majority (about 90%) of all degraded proteins, are not degraded in a membrane organelle such as a lysosome, but freely in the cytosol or in the nucleus by a multiprotein complex called the **proteasome**.



More detailed information on protein degradation can be found on the following pages:

Physiology

- Lysosomes
- Proteasomes (general basis)
- Degradation of proteins on proteasomes

Pathology

- Lysosomal disease
- Tumor stroma as a therapeutic target
- Carcinogenesis

Links

Related articles

- Proteins
- Ubiquitination
- Deubiquitination
- History of the ubiquitin-proteasome system
- Proteasome inhibitors
- Proteasome (in detail)

Source

- CVEK, Boris. Od ubikvitinu k antabusu. *Britské listy : deník o všem, o čem se v České republice příliš nemluví* [online]. 2011, vol. -, p. -, Available from <https://blisty.cz//legacy.blisty.cz/art/56680.html>. ISSN 1213-1792.

Reference

1. TODDE, Virginia – VEENHUIS, Marten – VAN DER KLEI, Ida J. Autophagy: principles and significance in health and disease. *Biochim Biophys Acta* [online]. 2009, y. 1792, p. 3-13, Available from <https://www.ncbi.nlm.nih.gov/pubmed/19022377>. ISSN 0006-3002.