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The dynamic nature of autophagy in health and disease

Vanessa Nicolin[1], Maria Caterina Turco[2], Giuseppina Amodoro[3], Fulvio Florenzano[3] and Stefania Lucia Nori[2]

[1] Clinical Department of Medical, Surgical and Health Science, University of Trieste, Trieste, Italy
[2] Department of Pharmaceutical and Biomedical Sciences (FARMABIOMED), University of Salerno, Fisciano, Italy
[3] C.N.R. Institute of Translational Pharmachology (IFT), Roma, Italy
[4] Confocal Microscopy Unit, EBRI (European Brain Research Institute), Roma, Italy

Macroautophagy is a highly regulated cellular process that serves to remove damaged proteins and organelles from the cell. Research during the last decade has made it increasingly clear that autophagy plays important roles in most of the major human diseases as well as in infection and immunity, with increasing evidence for selective autophagy of protein aggregates, organelles and pathogens (Levine et al., 2008). The purpose of autophagy is not the simple elimination of materials, but instead, autophagy serves as a dynamic recycling system that produces new building blocks and energy for cellular renovation and homeostasis. Here we provide a multidisciplinary sight of our current understanding of autophagy's role in metabolic adaptation, intracellular quality control, and renovation during development and differentiation.

References

Levine B, Kroemer G: Autophagy in the pathogenesis of disease. Cell 2008, 132:27-42.
Johansen T, Lamark T: Selective autophagy mediated by autophagic adapter proteins. Autophagy 2011, 7:279-296.

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