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Role of Autophagy in Viral Infection

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Message from the Collection Editor

Macroautophagy (hereafter referred to as autophagy) is a degradation pathway whereby cytosolic double-membrane-bound compartments termed autophagosomes engulf cytoplasmic constituents such as sub-cellular organelles and microbial pathogens, and target them for lysosomal degradation. Autophagy is thus an autonomous innate immune defense through which cells can eliminate viruses by capture into autophagosomes with subsequent killing through autophagy. Autophagy can also restrict viral infection by promoting the survival or death of infected cells, control inflammation by cooperating with pattern recognition receptor signaling to induce pro- and anti-inflammatory cytokines, and coordinate adaptive immunity by delivering virus-derived antigens for presentation to CD4+ and CD8+ T cells. However, viruses can also usurp autophagy to promote their propagation.

Keywords:

- autophagy
- immunity
- non-lytic release
- secretory autophagy
- viral evasion
- viral pathogenesis
- virophagy
- virus–host interactions



mdpi.com/si/47362

Topical Collection



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