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ESCRT-dependent cargo sorting at multivesicular endosomes

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Abstract

The endosomal sorting complex required for transport (ESCRT) machinery is composed of five multi-subunit protein complexes, which act cooperatively at specialized endosomes to facilitate the movement of specific cargoes from the limiting membrane into vesicles that bud into the endosome lumen. Over the past decade, numerous proteins, lipids, and RNAs have been shown to be incorporated into intraluminal vesicles (ILVs), but the mechanisms by which these unique cargoes are captured are only now becoming better understood. Here, we discuss the potential roles that the ESCRT machinery plays during cargo sorting at multivesicular endosomes (MVEs).

Abbreviations

DUB, deubiquitinating enzyme

DUIM, double ubiquitin-interacting motif

EGF, epidermal growth factor

ESCRT, endosomal sorting complex required for transport

GLUE, GRAM-like ubiquitin-binding in Eap45

ILV, intraluminal vesicle

LBPA, lysobisphosphatidic acid

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