

P002 ESCRT function in early *C. elegans* development
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In *C. elegans* oocytes, a number of receptors necessary for nutrient uptake are constitutively recycled between internal endosomal compartments and the plasma membrane. However, following fertilization, several of these membrane components are no longer necessary and are retargeted to the late endosomal system for degradation. This process is rapid and can occur within a single cell cycle (~30 min). Similarly, growth factor receptor signaling in mammalian cells is down-regulated via receptor degradation to prevent hyperproliferation. In both cases, a set of four endosomal sorting complexes (ESCRTs) are intimately involved. However, the mechanisms that underlie the rapid change in membrane fate remain unclear. To address this problem and explore the necessity of the ESCRT complexes in early embryogenesis, we have initially taken a biochemical approach. Using antibodies generated against *C. elegans* Tsg101, an ESCRT-I subunit, we immunoprecipitated a group of interacting proteins from embryo extracts. These included two known components of the complex, Vps28 and Vps37, as well as a recently identified fourth subunit, Mvb12. Using polycistronic coexpression and purification from bacterial lysates, we found that Mvb12 behaves as a stoichiometric subunit of the complex. Several other proteins that were not previously known to interact with ESCRT-I were also identified by mass spectrometry, which are currently under investigation. These new proteins may play important roles in the reorganization of membrane trafficking that occurs after developmental cues such as fertilization.