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Review

Molecular homologies in vesicle tethering

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Title

Molecular homologies in vesicle tethering

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Abstract

The HOPS multisubunit tethering factor (MTC) is a macromolecular protein complex composed of six different subunits. It is one of the key components in the perception and subsequent fusion of multivesicular bodies and vacuoles. Electron microscopy studies indicate structural flexibility of the purified HOPS complex. Inducing higher rigidity into HOPS by biochemically modifying the complex declines the potential to mediate SNARE-driven membrane fusion. Thus, we propose that integral flexibility seems to be not only a feature, but of essential need for the function of HOPS. This review focuses on the general features of membrane tethering and fusion. For this purpose, we compare the structure and mode of action of different tethering factors to highlight their common central features and mechanisms.

Keywords

HOPS, tethering, protein complex, structural flexibility, vesicle

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