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Phosphoinositide metabolism at the plasma membrane: From signaling to membrane dynamics



Fubito Nakatsu

Department of Cell Biology,
Howard Hughes Medical Institute,
Yale University School of Medicine

Plasma membrane, a principal “business center” of the cell, regulates a variety of fundamental processes including, but not limited to, signaling, endo/exocytosis, cytoskeletal rearrangement and lipid metabolism. How does the plasma membrane manage such diverse, sophisticated processes? A growing body of evidence highlights a critical regulation by lipids, especially phosphoinositides. In this talk, I will describe how membrane dynamics such as clathrin-coated pit/vesicle formation, as well as signaling, is tightly coupled to phosphoinositide metabolism at the plasma membrane. I will also discuss how phosphoinositides control homeostasis and determine plasma membrane identity.

