

Licensable Technologies

Selective Antibodies for Phosphoinositides (PIPs)

Applications:

- Monitoring cell signaling
- Discovering new pathways
- Mutagenicity studies

Benefits:

- Higher specificity and selectivity than other available PIP antibodies

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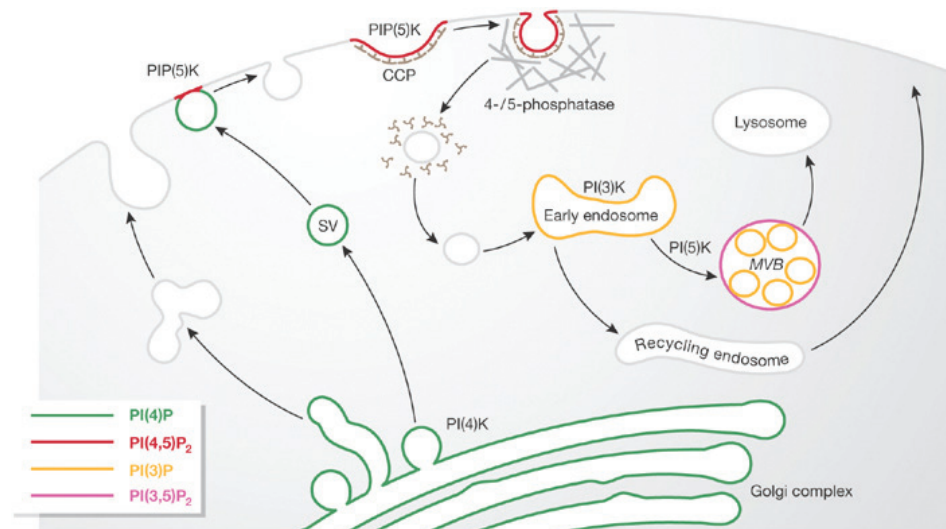


Image source: *EMBO reports* 8, 3, 241–246 (2007)

Summary:

Phosphatidylinositol phosphates, or phosphoinositides (PIPs), are lipids that signal intracellularly. Seven different phosphoinositides have been identified in mammals, each distinguished by the number and/or position of the phosphate groups on the inositol ring of the molecule. The inositol can be mono-, di-, or triphosphorylated, with the remaining phosphoinositides being isomers of these three forms. Phosphoinositides regulate a variety of signal transduction processes, thus playing a number of important roles in the cell, such as actin cytoskeletal reorganization, membrane transport, and cell proliferation. They may also affect protein localization, aggregation, and activity by acting as secondary messengers. The ability of the cell to recognize the different types of phosphoinositides as different cellular signals means that their synthesis and metabolism is tightly regulated.

Development Stage:

A number of antibody fragments with specificity for PI(4,5)P and PI(3,4,5)P have been developed and are in the process of being characterized.

Intellectual Property Status:

Patent application pending.

Licensing Status:

Los Alamos is seeking commercial partners to license the technology.