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Phosphatidylinositol

National Cancer Institute

Source

National Cancer Institute. *Phosphatidylinositol*. NCI Thesaurus. Code C743.

A phosphatidic acid combined with inositol found in biomembranes and a precursor to certain cellular signals. Sometimes referred to as inositide. It is a very important minor phospholipid in eukaryotes, involved in signal transduction processes. Contains myo inositol linked through the 1 hydroxyl group to phosphatidic acid. The 4 phosphate (PIP) and 4, 5 bisphosphate derivatives PIP₂) are formed and broken down in membranes by the action of specific kinases and phosphatases (futile cycles). Signal sensitive phospholipase C enzymes remove the inositol moiety, in particular from 1,4,5 trisphosphate (PIP₂) as inositol 1,4,5 triphosphate (Ins P₃: IP₃). Both the diacyl glycerol and products act as second messengers.