

Dodo Jesse Jospeh

18/MHS06/024

Med lab sci

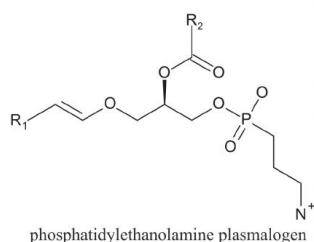
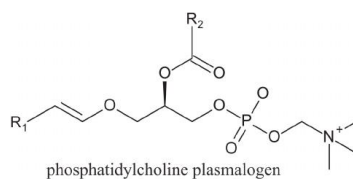
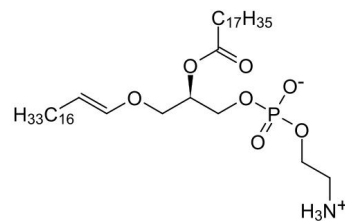
BCH 202

Answer Q1

Plasmalogens are a unique class of membrane glycerophospholipids containing a fatty alcohol with a vinyl-ether bond at the sn-1 position, and enriched in polyunsaturated fatty acids at the sn-2 position of the glycerol backbone. These two features provide novel properties to these compounds. Although plasmalogens represent up to 20% of the total phospholipid mass in humans their physiological roles have been challenging to identify, and are likely to be particular to different tissues, metabolic processes and developmental stages. Their biosynthesis starts in peroxisomes, and defects at these steps cause the malformation syndrome, Rhizomelic Chondrodysplasia Punctata (RCDP). The RCDP phenotype predicts developmental roles for plasmalogens in bone, brain, lens, lung, kidney and heart. Recent studies have revealed secondary plasmalogen deficiencies associated with more common disorders and allow us to tease out additional pathways dependent on plasmalogen functions. In this review, we present current knowledge of plasmalogen biology in health and disease. This article is part of a Special Issue entitled: Metabolic Functions and Biogenesis of peroxisomes in Health and Disease.

Answer Q2

Ethanolamine



Answer Q3

(A)

Plasmalogens are a unique class of membrane glycerophospholipids containing a fatty alcohol with a vinyl-ether bond at the sn-1 position, and enriched in polyunsaturated fatty acids at the sn-2 position of the glycerol backbone.

WHILE

Phosphoglycerides (also called glycerophospholipids) are the main constituents of membrane bilayers (Fig. 13.2). (These lipids are often called phospholipids, an imprecise term, as other lipids

(B)

it has been demonstrated that PLASMALOGENS can protect mammalian cells against the damaging effects

WHILE

One of the main functions of glycerophospholipid is to serve as a structural component of biological membranes. Their amphipathic nature drives the formation of the lipid bilayer structure of membranes.