PRODUCT DATA SHEET

Polar Lipid Mixture (quantitative)

<table>
<thead>
<tr>
<th>Catalog number:</th>
<th>1127</th>
<th>Volume:</th>
<th>1ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent:</td>
<td>chloroform/methanol 2:1</td>
<td>Source:</td>
<td>chicken and ovine</td>
</tr>
<tr>
<td>Storage:</td>
<td>-20°C</td>
<td>TLC:</td>
<td>chloroform/methanol/DI</td>
</tr>
<tr>
<td>Concentration:</td>
<td>25mg/ml</td>
<td>Volume:</td>
<td>1ml</td>
</tr>
</tbody>
</table>

Elution Order | Component Name | % Conc. by weight
--- | --- | ---
1 | Cholesterol | 25.0
2 | Phosphatidylethanolamine | 25.0
3 | Lecithin | 25.0
4 | lyso-Lecithin | 25.0

Application Notes:
This lipid mixture contains three phospholipids along with cholesterol in chloroform/methanol for the qualitative identification and quantitation of unknowns. Cholesterol is a sterol that is essential for all animal life, being critical for membrane permeability and fluidity and for many cellular functions. Cholesterol has been found to be involved in the regulation of certain integral protein activities and in vascular function and it is the precursor of steroids, bile salts, and vitamin D. Cholesterol also has functions in intracellular transport, cellular signaling and nerve conduction. Phosphatidylethanolamine is frequently the main lipid component of microbial membranes and the second most abundant phospholipid in mammals, comprising as much as 45% of brain lipids. Phosphatidylethanolamine has many functions including diluting the high negative charge density of the anionic phospholipids, secretion of very-low-density lipoproteins, and aiding in membrane fusion and fission. Lecithin is a major component of biological membranes, especially in the outer leaflet, often composing almost 50% of the total phospholipids. Lecithin plays an important role in membrane-mediated cell signaling by generating diacylglycerols and phospholipids. Lecithin is the biosynthetic precursor of sphingomyelin, phosphatidylethanolamine, lyso-lecithin, and platelet-activating factor. lyso-Lecithin is formed by the action of phospholipase A2 on lecithin by hydrolyzing the fatty acid on the sn-2 position. It has been found to stimulate phagocytosis, change the surface properties of erythrocytes, and have pro-inflammatory and cell signaling properties. lyso-Lecithin induces demyelination of nerves in biological systems and can therefore be used to mimic some of the effects of demyelinating diseases.

Selected References: