1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( \text{C}_{18}\text{H}_{38}\text{NO}_5\text{P} \)
Batch Molecular Weight: 379.48
Physical Appearance: White solid
Storage: Desiccate at +4°C

2. ANALYTICAL DATA

HPLC: Shows 98.8% purity
\(^1\text{H NMR:}\) Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

<table>
<thead>
<tr>
<th>Element</th>
<th>Theoretical</th>
<th>Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>56.97</td>
<td>57.03</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>10.09</td>
<td>10.26</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>3.69</td>
<td>3.59</td>
</tr>
</tbody>
</table>
Product Information

Product Name: Sphingosine-1-phosphate
Catalog No.: 1370
Batch No.: 3

CAS Number: 26993-30-6
IUPAC Name: (E)-D-erythro-2-amino-1-(dihydrogenphosphate)-4-octadecene-1,3-diol

Description:
Endogenous second messenger involved in the control of cell proliferation and motility, and Ca2+ mobilization. Acts as an agonist at sphingosine-1-phosphate receptors (S1P₁,₂) and as an activator of GPR3, GPR6 and GPR12. Effectors regulated include p38 MAP kinase, PLC, adenylyl cyclase, myosin light chain phosphatase and focal adhesion kinase.

Physical and Chemical Properties:
Batch Molecular Formula: C₁₈H₉₆NO₄P
Batch Molecular Weight: 379.48
Physical Appearance: White solid
Minimum Purity: >98%

Batch Molecular Structure:

Storage: Desiccate at +4°C

Solubility & Usage Info:
Stock solutions of this product are difficult to produce - we therefore recommend that either of the following methods are used to produce a stock solution of this product: Method 1 - Dissolve the product in phosphate-buffered saline as a complex with bovine serum albumin (4mg/ml) to a final concentration of 1mM (van Koppen et al (1996) Activation of a high affinity G protein-coupled plasma membrane receptor by sphingosine-1-phosphate. J.Biol.Chem. 271 2082). Method 2 – The product can be dissolved to 0.5μM in a microinjection buffer consisting of 100mM K⁺-glutamate and 30mM K⁺-citrate (pH7.3) (Postma et al (1996) Sphingosine-1-phosphate rapidly induces Rho-dependent retraction: action through a specific cell surface receptor. EMBO J. 15 2388).

Stability and Solubility Advice:
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath). Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:
- SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.
- SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References: