Product: Wortmannin

Cat. No: MT-750 (10 mg)

Formula: C_{23}H_{24}O_8

Molecular Weight: 428.44

Description:
Recently, it has been shown that Wortmannin blocks phosphatidylinositol 3-kinase (PI-3) although some PI-3 kinases are resistant, and inhibits the activation of mitogen-activated protein kinase (MAPK). Wortmannin is a specific and potent inhibitor of myosin light-chain kinase (MLCK), neutrophil activation, IgE-mediated histamine secretion, and fMet-Leu-Phe (fMLP)-stimulated superoxide anion (O2-) production. Wortmannin also blocks fMLP-stimulated phospholipase D activation. In whole animals, Wortmannin displays anti-inflammatory activity, anti-fungal activity, and acute toxicity.

Format: Supplied as a dry crystalline powder.

Production:
Isolated and purified from the culture broth of the fungal strain, Talaromyces wortmannin KY12420.

Purification: 97.7% pure by HPLC.

Inhibitory Data:

<table>
<thead>
<tr>
<th>Inhibitor</th>
<th>IC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myosin light-chain kinase fMet-Leu-Phe-stimulated</td>
<td>0.17 µM</td>
</tr>
<tr>
<td>Superoxide production</td>
<td>0.007 ± 0.001 µM</td>
</tr>
<tr>
<td>FcEpsilonRI mediated histamine secretion up to 80%</td>
<td>0.002 µM</td>
</tr>
<tr>
<td>Mitogen-activated protein kinase (MAPK)</td>
<td>0.010 µM</td>
</tr>
<tr>
<td>Phosphatidylinositol 3-kinase</td>
<td>0.003 µM</td>
</tr>
<tr>
<td>Phosphatidylinositol 3-kinase, intracellular</td>
<td>0.002 µM</td>
</tr>
<tr>
<td>IgE mediated histamine release from rat basophilic leukemia cells (RBL-2H3)</td>
<td>0.020 µM</td>
</tr>
<tr>
<td>IgE mediated histamine release from human basophils</td>
<td>0.030 µM</td>
</tr>
</tbody>
</table>

Solubility:
Soluble in DMSO and methanol. 10 mM stock solution in DMSO can be prepared, aliquoted, and stored at –20°C in the dark. Use only new DMSO. Dilute just before use. The recommended buffer for preparing working solutions is 25 mM Tris-HCl, pH 7.4. Avoid multiple freeze-thawing and protect from light. DMSO solution will develop a darker yellow color over time.

Storage and Stability:
Store powder form at –20°C in the dark. Stable in powder form for at least a year. DMSO stock solutions can be stored at either 4°C or –20°C in the dark. DMSO stock solutions stored at either –20°C or 4°C will lose activity within 2-3 weeks. WORTMANNIN IS LIGHT SENSITIVE! PROTECT FROM LIGHT!

WARNING! WORTMANNIN IS EXTREMELY TOXIC! It Must Not Be Used For Therapeutic Purposes. Toxicity: Toxic in rats at 7 mg/kg body weight.

References:
**PRODUCT DATA SHEET**

**Cat. No:** MT-750


30. Cutler, N. S. et al. (1997). STT4 is an Essential Phosphatidylinositol 4-Kinase that is a Target of Wortmannin in Saccharomyces cerevisiae J. Biol. Chem. 272(14), 27671-27677.


**Limitations:**

For in vitro research use only. Not for use in diagnostics or in humans.

**Warranty:**

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.