Thiabendazole

Cat. No.: HY-B0263
CAS No.: 148-79-8
Molecular Formula: C₁₀H₇N₃S
Molecular Weight: 201.25
Target: Mitochondrial Metabolism
Pathway: Metabolic Enzyme/Protease
Storage: Powder
-20°C 3 years
4°C 2 years
In solvent
-80°C 6 months
-20°C 1 month

Solvent & Solubility

In Vitro 10 mM in DMSO

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>4.9689 mL</td>
<td>24.8447 mL</td>
<td>49.6894 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.9938 mL</td>
<td>4.9689 mL</td>
<td>9.9379 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.4969 mL</td>
<td>2.4845 mL</td>
<td>4.9689 mL</td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description
Thiabendazole inhibits the mitochondrial helminth-specific enzyme, fumarate reductase, with anthelminthic property. Target: Fumarate Reductase Thiabendazole serves to block angiogenesis in both frog embryos and human cells. It has also been shown to serve as a vascular disrupting agent to reduce newly established blood vessels. Thiabendazole has been shown to effectively do this in certain cancer cells. Thiabendazole works by inhibition of the mitochondrial, helminth-specific enzyme, fumarate reductase, with possible interaction with endogenous quinone [1]. Thiabendazole inhibited B16F10 proliferation in vitro in a dose- and time-dependent manner with an IC50 of 532.4 +/- 32.6, 322.9 +/- 28.9, 238.5 +/- 19.8 microM at 24, 48, and 72 h, respectively. Moreover, thiabendazole inhibited the angiogenesis and the migration of B16F10 cells in vitro. Furthermore, thiabendazole restrained transcription and translation of the VEGF gene in B16F10 in vitro, and the apoptotic percentage of B16F10 cells was increased after exposure to thiabendazole [2].

REFERENCES

[1] Thiabendazole inhibited B16F10 proliferation in vitro in a dose- and time-dependent manner with an IC50 of 532.4 +/- 32.6, 322.9 +/- 28.9, 238.5 +/- 19.8 microM at 24, 48, and 72 h, respectively. Moreover, thiabendazole inhibited the angiogenesis and the migration of B16F10 cells in vitro. Furthermore, thiabendazole restrained transcription and translation of the VEGF gene in B16F10 in vitro, and the apoptotic percentage of B16F10 cells was increased after exposure to thiabendazole [2].