Liothyronine

Cat. No.: HY-A0070A
CAS No.: 6893-02-3
Molecular Formula: C₁₅H₁₂I₃NO₄
Molecular Weight: 650.97
Target: Thyroid Hormone Receptor; Endogenous Metabolite
Pathway: Others; 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
DMSO : ≥ 6.9 mg/mL (10.60 mM)
* “≥” means soluble, but saturation unknown.

Preparation of Stock Solutions

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Mass (mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mg</td>
<td></td>
</tr>
<tr>
<td>5 mg</td>
<td></td>
</tr>
<tr>
<td>10 mg</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solvent</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.5362 mL</td>
<td>7.6808 mL</td>
<td>15.3617 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.3072 mL</td>
<td>1.5362 mL</td>
<td>3.0723 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1536 mL</td>
<td>0.7681 mL</td>
<td>1.5362 mL</td>
</tr>
</tbody>
</table>

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

BIOLOGICAL ACTIVITY

Description
Liothyronine is an active form of thyroid hormone, which binds to β1 thyroid hormone receptor (TRβ1), and activates its activity.

IC₅₀ & Target
Human Endogenous Metabolite

In Vitro
Liothyronine (T3, 100 nM) stimulates the proliferation of hepatocarcinoma cells in which TRβ1 is overexpressed[1]. Liothyronine binds to human β1 thyroid hormone receptor (hTRβ1), and change its conformation. Liothyronine promotes growth, induces differentiation and regulates metabolic effects[2].

PROTOCOL

www.MedChemExpress.com
Cell Assay

Thyroid hormone depleted (Td) serum is prepared. The growth of hepatocarcinoma cells in methylcellulose is performed. To determine the effect of Liothyronine (T3) on the growth of cells, cells are plated at a density of $3 \times 10^4$ cells/60 mm dish on day 0, and incubated in medium containing 5% regular serum, 5% Td or 5% Td and 100 nM T3. The colony formation in methylcellulose is scored 3 weeks after initial plating\cite{1}.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES
