Hydroxysafflor yellow A

Cat. No.: HY-N0567
CAS No.: 78281-02-4
Molecular Formula: \( \text{C}_{27}\text{H}_{32}\text{O}_{16} \)
Molecular Weight: 612.53
Target: Others
Pathway: Others
Storage: 4°C, protect from light

* In solvent: -80°C, 6 months; -20°C, 1 month (protect from light)

**SOLVENT & SOLUBILITY**

**In Vitro**

DMSO: \( \geq 34 \text{ mg/mL (55.51 mM)} \)
\( \text{H}_{2}\text{O}: 33.33 \text{ mg/mL (54.41 mM; Need ultrasonic)} \)

* "\( \geq \)" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Mass Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>1.6326 mL</td>
<td>8.1629 mL</td>
<td>16.3257 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.3265 mL</td>
<td>1.6326 mL</td>
<td>3.2651 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.1633 mL</td>
<td>0.8163 mL</td>
<td>1.6326 mL</td>
</tr>
</tbody>
</table>

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

**In Vivo**

1. Add each solvent one by one: **10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline**
   Solubility: \( \geq 2.5 \text{ mg/mL (4.08 mM)} \); Clear solution

2. Add each solvent one by one: **10% DMSO >> 90% (20% SBE-β-CD in saline)**
   Solubility: \( \geq 2.5 \text{ mg/mL (4.08 mM)} \); Clear solution

**BIOLOGICAL ACTIVITY**

**Description**

Hydroxysafflor yellow A is a flavonoid derived and isolated from traditional Chinese medicine Carthamus tinctorius L., possesses anti-tumor activity. IC50 value:

**Target:** in vitro: HYSA could inhibit LPS-induced VSMCs proliferation and migration, accompanied by the downregulated levels of several key pro-inflammatory cytokines, including TNF-\( \alpha \), IL-6, and IL-8. We further showed that HYSA inhibited LPS-induced upregulation of TLR-4 expression as well as the activation of Rac1/Akt pathway [1]. HYSA protected EC viability against LPS-induced injury (P<0.05). LPS-induced NF-\( \kappa \)B p65 subunit DNA binding (P<0.01) and nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor -\( \alpha \) (I-\( \kappa \)B-\( \alpha \)) phosphorylation was inhibited by HYSA. HYSA attenuated LPS triggered ICAM-1 and E-selectin mRNA levels elevation and phosphorylation of p38 MAPK or c-Jun N-terminal kinase MAPK [2]. HYSA inhibited the proliferation of 3T3-L1 preadipocytes and cell viability greatly decreased in a dose and time dependent manner.
HSYA (1 mg/l) notably reduced the amount of intracellular lipid and triglyceride content in adipocytes by 21.3 % (2.13 ± 0.36 vs 2.71 ± 0.40, P < 0.01) and 22.6 % (1.33 ± 0.07 vs 1.72 ± 0.07, P < 0.01) on days 8 following the differentiation, respectively [3]. in vivo: HSYA treatment ameliorated serum biochemical indicators by reducing the levels of alanine aminotransferase (ALT), aspartate aminotransferase (AST), hyaluronan (HA), laminin (LN), and type III precollagen (III-C) in rats [4].

REFERENCES


