**Formononetin**

Cat. No.: HY-N0183  
CAS No.: 485-72-3  
Molecular Formula: C₁₆H₁₂O₄  
Molecular Weight: 268.26  
Target: FGFR  
Pathway: Protein Tyrosine Kinase/RTK  
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: $\geq 35$ mg/mL (130.47 mM)

*“≥” means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Mass (mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concentration</strong></td>
<td><strong>1 mg</strong></td>
</tr>
<tr>
<td>1 mM</td>
<td>3.7277 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.7455 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.3728 mL</td>
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</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**

Formononetin (Formononetol; Flavosil) is a bioactive component extracted from the red clover; inhibits the proliferation of DU-145/PC-3 cells in a dose-dependent manner. IC₅₀ value: Target: anti-cancer in vitro: formononetin inhibited the proliferation of DU-145 cells in a dose-dependent manner. DU-145 cells treated with different concentrations of formononetin displayed obvious morphological changes of apoptosis under fluorescence microscopy. In addition, formononetin increased the proportion of early apoptotic DU-145 cells, down-regulated the protein levels of Bcl-2 and up-regulated those of RASD1 and Bax [1]. Formononetin significantly inhibited the cell growth of PC-3 in a dose-dependent manner, but no such effect was observed in RWPE1 cells. Formononetin treatment contributed to the reduced Bcl-2 protein level and the elevated Bax expression in PC-3 cells, thereby resulting in the increasing Bax/Bcl-2 ratios. Furthermore, the phosphorylated level of p38 in PC-3 cells was activated through the FN treatment, whereas the endogenous Akt phosphorylation was blocked [2]. Compared with the control, formononetin inhibited the proliferation of MCF-7 cells and effectively induced cell cycle arrest. The levels of p-IGF-1?R, p-Akt, cyclin D1 protein expression, and cyclin D1 mRNA expression were also downregulated [3]. In vivo: formononetin also prevented the tumor growth of human breast cancer cells in nude mouse xenografts [3].
REFERENCES

