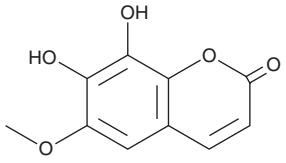
# PRODUCT INFORMATION

## Fraxetin

*Item No. 28011*

| | |
|---|---|
| **CAS Registry No.:** | 574-84-5 |
| **Formal Name:** | 7,8-dihydroxy-6-methoxy-2H-1-benzopyran-2-one |
| **Synonym:** | 7,8-Dihydroxy-6-Methoxycoumarin |
| **MF:** | $C_{10}H_8O_5$ |
| **FW:** | 208.2 |
| **Purity:** | ≥98% |
| **UV/Vis.:** | $\lambda_{max}$: 211, 341 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |
| **Item Origin:** | Plant/*Cortex fraxini* |




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

Fraxetin is supplied as a crystalline solid. A stock solution may be made by dissolving the fraxetin in the solvent of choice, which should be purged with an inert gas. Fraxetin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of fraxetin in these solvents is approximately 20 and 5 mg/ml, respectively.

Fraxetin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, fraxetin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Fraxetin has a solubility of approximately 0.09 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Fraxetin is a coumarin that has been found in *F. bungeana* and has diverse biological activities.[1-3] It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) radicals, ABTS (Item No. 27317) radicals, and hydrogen peroxide in cell-free assays ($IC_{50}$s = 44.1, 37.4, and 40.5 µM, respectively).[1] Fraxetin selectively reduces cell viability in a panel of six non-small cell lung cancer (NSCLC) cell lines ($IC_{50}$s = 20.12-61.36 µM) over noncancerous cell lines ($IC_{50}$s = >100 µM).[2] Fraxetin (25 and 50 mg/kg) reduces levels of aspartate aminotransferase (AST), alanine aminotransferase (ALT), and total bilirubin (TBIL) in serum, decreases hepatic expression of TNF-α, IL-6, IL-1β, and COX-2, and attenuates hepatic fibrosis in a rat model of carbon tetrachloride-induced liver fibrosis.[3]

### References


1. Wu, C.-R., Huang, M.-Y., Lin, Y.-T., *et al.* Antioxidant properties of Cortex Fraxini and its simple coumarins *Food Chem.* **104(4)**, 1464-1471 (2007).
2. Zhang, Y., Wang, L., Deng, Y., *et al.* Fraxetin suppresses proliferation of non-small-cell lung cancer cells via preventing activation of signal transducer and activator of transcription 3. *Tohoku J. Exp. Med.* **248(1)**, 3-12 (2019).
3. Wu, B., Wang, R., Li, S., *et al.* Antifibrotic effects of fraxetin on carbon tetrachloride-induced liver fibrosis by targeting NF-κB/IκBα, MAPKs and Bcl-2/Bax pathways. *Pharmacol. Rep.* **71(3)**, 409-416 (2019).



**WARNING**
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/12/2022



**CAYMAN CHEMICAL**
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
**PHONE:** [800] 364-9897
[734] 971-3335
**FAX:** [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM