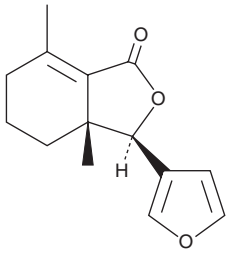
PRODUCT INFORMATION

Fraxinellone

Item No. 34672

CAS Registry No.:	28808-62-0
Formal Name:	(3R,3aR)-3-(3-furanyl)-3a,4,5,6-tetrahydro-3a,7-dimethyl-1(3H)-isobenzofuranone
MF:	$C_{14}H_{16}O_3$
FW:	232.3
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Salix alba*



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

Laboratory Procedures

Fraxinellone is supplied as a solid. A stock solution may be made by dissolving the fraxinellone in the solvent of choice, which should be purged with an inert gas. Fraxinellone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of fraxinellone in ethanol is approximately 25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Fraxinellone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, fraxinellone should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Fraxinellone has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Fraxinellone is a liminoid degradant that has been found in *D. dasycarpus* and has diverse biological activities.[1-3] It has antifeedant activity against, and inhibits development of, armyworm (*M. separata*) larvae when applied to fresh wheat leaves at concentrations of 5, 10, or 20 mg/ml.[1] Fraxinellone (6.25, 12.5, and 25 µM) reduces LPS-induced nuclear translocation of the NF-κB subunit p65, as well as inhibits LPS-induced production of nitric oxide (NO) and prostaglandin E_2 (PGE_2; Item No. 14010) in RAW 264.7 cells.[2] It reduces tumor growth in an A549 mouse xenograft model when administered at doses of 30 or 100 mg/kg.[3]

References

1. Lü, M., Wu, W., and Liu, H. Insecticidal and feeding deterrent effects of fraxinellone from *Dictamnus dasycarpus* against four major pests. *Molecules* **18(3)**, 2754-2762 (2013).
2. Kim, J.-H., Park, Y.-M., Shin, J.-S., *et al.* Fraxinellone inhibits lipopolysaccharide-induced inducible nitric oxide synthase and cyclooxygenase-2 expression by negatively regulating nuclear factor-kappa B in RAW 264.7 macrophages cells. *Biol. Pharm. Bull.* **32(6)**, 1062-1068 (2009).
3. Xing, Y., Mi, C., Wang, Z., *et al.* Fraxinellone has anticancer activity in vivo by inhibiting programmed cell death-ligand 1 expression by reducing hypoxia-inducible factor-1α and STAT3. *Pharmacol. Res.* **135**, 166-180 (2018).

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