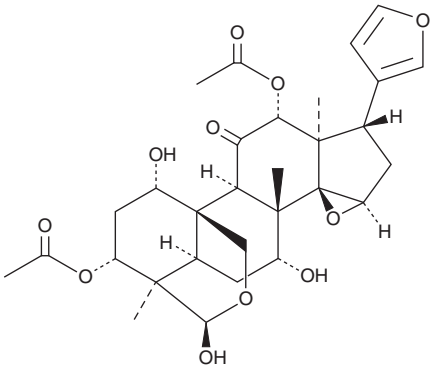
PRODUCT INFORMATION

Toosendanin

Item No. 34042

CAS Registry No.:	58812-37-6
Formal Name:	[C(R),1α,3α,4β,5α,7α,12α,13α,14β,15β,17α]-3,12-*bis*(acetyloxy)-14,15:21,23-diepoxy-1,7,19-trihydroxy-4,8-dimethyl-11-oxo-cyclic 4,19-hemiacetal, 24-norchola-20,22-diene-4-carboxaldehyde
Synonyms:	Chuanliansu, 28-Deacetylsendanin
MF:	$C_{30}H_{38}O_{11}$
FW:	574.6
Purity:	≥95% (mixture of isomers)
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Melia toosendan*



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

Laboratory Procedures

Toosendanin is supplied as a solid. A stock solution may be made by dissolving the toosendanin in the solvent of choice, which should be purged with an inert gas. Toosendanin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of toosendanin in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Toosendanin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, toosendanin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Toosendanin has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Toosendanin is a triterpenoid that has been found in *M. toosendan* and has diverse biological activities.[1-3] It inhibits the proliferation of BEL-7404, U251, SH-SY5Y, HL-60, PC3, and U937 cancer cells (IC_{50}s = <0.17 µM for all).[1] Toosendanin is larvicidal against *A. aegypti* first instar larvae (LC_{50} = 60.8 µg/ml) and delays pupal development when used at concentrations ranging from 6.3 to 25 µg/ml.[2] It decreases serum levels of TNF-α, IL-1β, and IL-6 in a mouse model of ulcerative colitis induced by dextran sulfate (sodium salt) (DSS; Item No. 23250) when administered at doses of 0.5 and 1 mg/kg.[3] Toosendanin (9 mg/kg) increases survival in a mouse model of botulism induced by botulinum neurotoxin serotype A (BoNT/A).[1]

References

1. Shi, Y.-L. and Li, M.-F. Biological effects of toosendanin, a triterpenoid extracted from Chinese traditional medicine. *Prog. Neurobiol.* **82(1)**, 1-10 (2007).
2. Ma, Z., Gulia-Nuss, M., Zhang, X., *et al.* Effects of the botanical insecticide, toosendanin, on blood digestion and egg production by female *Aedes aegypti* (Diptera: Culicidae): Topical application and ingestion. *J. Med. Entomol.* **50(1)**, 112-121 (2013).
3. Fan, H., Chen, W., Zhu, J., *et al.* Toosendanin alleviates dextran sulfate sodium-induced colitis by inhibiting M1 macrophage polarization and regulating NLRP3 inflammasome and Nrf2/HO-1 signaling. *Int. Immunopharmacol.* **76**, 105909 (2019).

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