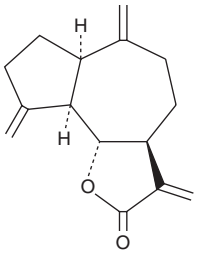
PRODUCT INFORMATION

Dehydrocostus lactone

Item No. 18485

CAS Registry No.:	477-43-0
Formal Name:	(3aS,6aR,9aR,9bS)-decahydro-3,6,9-tris(methylene)-azuleno[4,5-b]furan-2(3H)-one
Synonym:	(-)-Dehydrocostus lactone
MF:	$C_{15}H_{18}O_2$
FW:	230.3
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Dehydrocostus lactone is supplied as a crystalline solid. A stock solution may be made by dissolving the dehydrocostus lactone in the solvent of choice, which should be purged with an inert gas. Dehydrocostus lactone is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of dehydrocostus lactone in these solvents is approximately 2 mg/ml.

Dehydrocostus lactone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dehydrocostus lactone should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Dehydrocostus lactone has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Dehydrocostus lactone is a natural sesquiterpene first isolated from costus root, which is used in traditional medicine.[1] Dehydrocostus lactone has diverse anti-cancer properties in cells and animal models, causing cell cycle arrest, inducing apoptosis, diminishing multidrug resistance, and suppressing angiogenesis in cancer cells.[2-4] It also has anti-inflammatory actions in cells, including the inhibition of signaling through STAT1 and STAT3.[5,6]

References

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2. Wang, C.Y., Tsai, A.-C., Peng, C.-Y., *et al.* Dehydrocostuslactone suppresses angiogenesis *in vitro* and *in vivo* through inhibition of Akt/GSK-3β and mTOR signaling pathways. *PLoS One* **7(2)**, (2012).
3. Lohberger, B., Rinner, B., Stuendl, N., *et al.* Sesquiterpene lactones downregulate G2/M cell cycle regulator proteins and affect the invasive potential of human soft tissue sarcoma cells. *PLoS One* **8(6)**, (2013).
4. Li, X., Peng, Z., and Su, C. Potential anti-cancer activities and mechanisms of costunolide and dehydrocostuslactone. *Int. J. Mol. Sci.* **16(5)**, 10888-10906 (2015).
5. Butturini, E., Cavalieri, E., Carcereri de Prati, A., *et al.* Two naturally occurring terpenes, dehydrocostuslactone and costunolide, decrease intracellular GSH content and inhibit STAT3 activation. *PLoS One* **6(5)**, (2011).
6. Scarponi, C., Butturini, E., Sestito, R., *et al.* Inhibition of inflammatory and proliferative responses of human keratinocytes exposed to the sesquiterpene lactones dehydrocostuslactone and costunolide *PLoS One* **9(9)**, (2014).

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