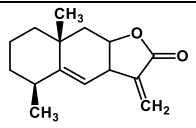


## Alantolactone

Name of the Phytochemical	Alantolactone
Chemical Structure	
Botanical Source	Inula racemosa
CAS Number	546-43-0
Functional Activity	<ul style="list-style-type: none"> <li>• It inhibits proliferation in cancer cells with no affect on normal cells</li> <li>• Alantolactone is a selective <u>STAT3</u> inhibitor, with potent <u>anticancer</u> activity</li> <li>• Possesses superior anti-tumor properties besides anti-inflammatory and antimicrobial activities</li> <li>• It can synergize with chemical drugs to enhance their anticancer effects, such as Quercetin and oxaliplatin</li> <li>• Alantolactone inhibits cervical cancer progression by downregulating BMI1 and induces apoptosis in A549 lung cancer cells</li> <li>• Alantolactone suppresses inflammation, apoptosis and oxidative stress in cigarette smoke-induced human bronchial epithelial cells</li> </ul>
Key References	<ol style="list-style-type: none"> <li>1. Alantolactone inhibits cervical cancer progression by downregulating BMI. <b><u>Scientific Reports</u>, 2021, 11, 9251</b></li> <li>2. Alantolactone suppresses inflammation, apoptosis and oxidative stress in cigarette smoke-induced human bronchial epithelial cells through activation of Nrf2/HO-1 and inhibition of the NF-κB pathways. <b><u>Respiratory Research</u>, 2020, 21, 95</b></li> <li>3. Structure-activity relationship studies on derivatives of eudesmanolides from Inula helenium as toxicants against Aedes aegypti larvae and adults. <b><u>Chemistry &amp; biodiversity</u>, 2010, 7, 1681-1697</b></li> </ol>

	<ol style="list-style-type: none"> <li>4. Alantolactone induces activation of apoptosis in human hepatoma cells. <b>Food and chemical toxicology</b>, 2012, 50, 3313-3319</li> <li>5. Interactions between the circadian clock and TGF-<math>\beta</math> signaling pathway in zebrafish. <b>PloS one</b>, 2018, 13, e0199777-e0199777</li> <li>6. Alantolactone suppresses inducible nitric oxide synthase and cyclooxygenase-2 expression by down-regulating NF-<math>\kappa</math>B, MAPK and AP-1 via the MyD88 signaling pathway in LPS-activated RAW 264.7 cells. <b>International immunopharmacology</b>, 2012, 14, 375-383</li> <li>7. Alantolactone induces apoptosis, promotes STAT3 glutathionylation and enhances chemosensitivity of A549 lung adenocarcinoma cells to doxorubicin via oxidative stress. <b>Scientific Reports</b>, 2017, 7, 6242-6242</li> </ol>
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