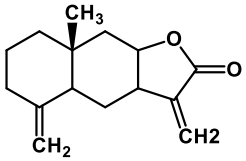
Isoalantolactone

Name of the Phytochemical	**Isoalantolactone**
Chemical Structure	
Botanical Source	Inula racemosa
CAS Number	470-17-7
Functional Activity	• Induces apoptosis through reactive oxygen species-dependent upregulation of death receptor 5 in human esophageal cancer cells • Induces apoptosis in glioma cells • Potent inhibitor of NFkB • Can be used as an anti-inflammatory agent
Key References	1. Isoalantolactone induces reactive oxygen species mediated apoptosis in pancreatic carcinoma PANC-1 cells. **Int J Biol Sci. 2012, 8: 533-47** 2. Targeting apoptosis pathways in cancer with alantolactone and isoalantolactone. **ScientificWorldJournal. 2013, 248532** 3. Isoalantolactone Enhances the Radiosensitivity of UMSCC-10A Cells via Specific Inhibition of Erk1/2 Phosphorylation. **PLoS One. 2015, 10: e0145790** 4. Isoalantolactone induces autophagic cell death in SKOV3 human ovarian carcinoma cells via upregulation of PEA-15. **Oncol Rep. 2016, 35, 833-40**

5. Isoalantolactone Inhibits Proliferation of K562/A02 Cells through Caspase-Dependent Apoptotic Pathway. **Zhongguo Shi Yan Xue Ye Xue Za Zhi. 2017, 25: 110-114**
6. Isoalantolactone Inhibits Esophageal Squamous Cell Carcinoma Growth Through Downregulation of MicroRNA-21 and Derepression of PDCD4. **Dig Dis Sci. 2018, 63, 2285-2293**
7. Isoalantolactone induces apoptosis through reactive oxygen species-dependent upregulation of death receptor 5 in human esophageal cancer cells. **Toxicol Appl Pharmacol. 2018, 352, 46-58**
8. Antiproliferative effects of isoalantolactone in human liver cancer cells are mediated through caspase-dependent apoptosis, ROS generation, suppression of cell migration and invasion and targeting Ras/Raf/MEK signalling pathway. **Acta Biochim Pol. 2022, 69: 299-304**
9. Isoalantolactone Induces Cell Cycle Arrest, Apoptosis and Autophagy in Colorectal Cancer Cells. **Front Pharmacol.2022, 13, 903599**
10. Isoalantolactone exerts anticancer effects on human HEC-1-B endometrial cancer cells via induction of ROS mediated apoptosis and inhibition of MEK/ERK signalling pathway. **Acta Biochim Pol. 2022, 69, 453-458**
11. Isoalantolactone (IAL) Regulates Neuro-Inflammation and Neuronal Apoptosis to Curb Pathology of Parkinson′s Disease. **Cells. 2022, 11**
12. Research progress on pharmacological effects of isoalantolactone. **J Pharm Pharmacol. 2023, 75, 585-592**
13. Isoalantolactone mediates the degradation of BCR-ABL protein in imatinib-resistant CML cells by down-regulating survivin. **Cell Cycle. 2023, 1-14**
14. Sesquiterpene lactone containing Mexican Indian medicinal plants and pure sesquiterpene lactones as potent inhibitors of transcription factor NK-kappaB. **FEBS Lett.,1997, 402, 85**
15. Sesquiterpene lactones are potent inhibitors of interleukin 8 gene expression in cultured human respiratory epithelium. **Cytokine, 2000, 12, 239**