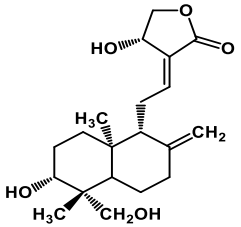
Andrographolide

Name of the Phytochemical	**Andrographolide**
Chemical Structure	
Botanical Source	Andrographis paniculata
CAS Number	5508-58-7
Functional Activity	• Displays a wide range of therapeutic actions, including immunosuppressant, antithrombotic, anti-inflammatory, antineoplastic, antiviral, antibacterial, antidiabetic, antioxidative stress, antipyretic, antioedematogenic, and antinociceptive activities • Acts as an irreversible antagonist of NF-κB and AP-1 ($IC_{50} \leq 15$ μM) activation, • Prevents in vitro and in vivo T cell activation. • Inhibits iNOS and Mac-1 expressions and ROS production • Displays significant antihepatotoxic action
Key References	**1.** Andrographolide, a potential cancer therapeutic agent isolated from Andrographis paniculata. **J. Exp. Ther. Oncol., 2003, 3, 147** **2.** In vitro and in vivo anti-inflammatory effects of andrographolide. **Int. Immunopharmacol., 2009, 9, 313** **3.** Andrographolide prevents oxygen radical production by human neutrophils: possible mechanism(s) involved in its anti-inflammatory effect. **Br. J. Pharmacol., 2002, 135, 399** **4.** Andrographolide Attenuates Inflammation by Inhibition of NF-κB Activation through covalent modification of reduced cysteine 62 of p50. **J. Immunol., 2004, 173, 4207** **5.** Antihyperglycemic effect of andrographolide in streptozotocin-induced diabetic rats. **Planta medica, 2003, 69**

6. Andrographolide suppresses endothelial cell apoptosis via activation of phosphatidyl inositol-3-kinase/Akt pathway. **Biochemical pharmacology, 2004, 67, 1337-45**
7. Andrographolide: A new plant-derived antineoplastic entity on horizon. **Evidence-Based Complementary and alternative Medicine, 2011, 1-9**
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9. Andrographolide downregulates the v-Src and Bcr-Abl oncoproteins and induces Hsp90 cleavage in the ROS-dependent suppression of cancer malignancy. **Biochem Pharmacol., 2014, 87, 229-42**
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14. Inhibitory effects of andrographolide on migration and invasion in human non-small cell lung cancer A549 cells via down-regulation of PI3K/Akt signaling pathway. Eur J Pharmacol., 2010, 632, 23-32
15. A phase I trial of andrographolide in HIV positive patients and normal volunteers. Phytother Res., 2000, 14, 333-8
16. Andrographolide suppresses epithelial mesenchymal transition by inhibition of MAPK signalling pathway in lens epithelial cells. J Biosci., 2015, 40, 313-24
17. *Andrographolide prevents high-fat diet-induced obesity in C57BL/6 mice by suppressing the sterol regulatory element-binding protein pathway. J Pharmacol Exp Ther., 2014, 351, 474-83*