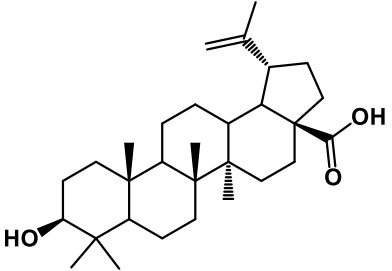


Betulinic acid

Name of the Phytochemical	Betulinic acid
Chemical Structure	
Botanical Source	Betula alba
CAS Number	472-15-1
Functional Activity	<ul style="list-style-type: none"> • Acts as a eukaryotic <u>topoisomerase I</u> inhibitor, with an IC_{50} of 5 μM, and possesses anti-HIV, anti-malarial, anti-inflammatory and anti-tumor properties. • Acts as an antiviral agent against Dengue virus (DENV).
Key References	<ol style="list-style-type: none"> 1. <u>Preparation of amino acid conjugates of betulinic acid with activity against human melanoma.</u> Bioorg Med Chem Lett., 1999, 9, 1201-4. 2. <u>Betulinic acid: a new cytotoxic agent against malignant brain-tumor cells.</u> Int J Cancer, 1999, 82, 435-41. 3. <u>Effects of betulinic acid alone and in combination with irradiation in human melanoma cells.</u> J Invest Dermatology, 2000, 114, 935-40. 4. <u>Betulinic acid, a potent inhibitor of eukaryotic topoisomerase I: identification of the inhibitory step, the major functional group responsible and development of more potent derivatives.</u> Med Sci Monit., 2002, 8: BR254-65. 5. <u>Isolation, characterization and biological activity of betulinic acid and ursolic acid from Vitex negundo L.</u> Phytother Res., 2003, 17, 129-34.

- | | |
|--|--|
| | <ol style="list-style-type: none">6. <u>Chemistry, biological activity, and chemotherapeutic potential of betulinic acid for the prevention and treatment of cancer and HIV infection.</u> Med Res Rev., 2004, 24: 90-114.7. <u>Synthesis of A-seco derivatives of betulinic acid with cytotoxic activity.</u> J Nat Prod., 2004, 67, 1100-5.8. <u>Betulinic acid inhibits prostate cancer growth through inhibition of specificity protein transcription factors.</u> Cancer Res., 2007, 67,2816-23.9. <u>Antitumor effect of betulinic acid on human acute leukemia K562 cells in vitro.</u> J Huazhong Univ Sci Technolog Med Sci., 2010, 30, 453-7.10. <u>Lamin B1 is a novel therapeutic target of betulinic acid in pancreatic cancer.</u> Clin Cancer Res., 2013, 19, 4651-61.11. <u>Betulinic Acid and its Derivatives as Potential Antitumor Agents.</u> Med Res Rev., 2015, 35, 1127-55.12. <u>Discovery of betulinic acid as a selective inhibitor of human melanoma that functions by induction of apoptosis.</u> Nat Med., 1995, 1, 1046-51.13. <u>Anti-AIDS agents--XXVII. Synthesis and anti-HIV activity of betulinic acid and dihydrobetulinic acid derivatives.</u> Bioorg Med Chem.,1997, 5, 2133-43.14. <u>Bax and adenine nucleotide translocator cooperate in the mitochondrial control of apoptosis.</u> Science, 1998, 281, 2027-31.15. <u>Activation of mitochondria and release of mitochondrial apoptogenic factors by betulinic acid.</u> J Biol Chem., 1998, 273, 33942-8. |
|--|--|