Product Data Sheet

Product Name: β-acetyl-Boswellic Acid
Cat. No.: GC15961

Chemical Properties

Cas. No.	5968-70-7		
Chemical Name	(3α,4β)-3-(acetyloxy)-urs-12-en-23-oic acid		
SMILES	C[C@]1(C(O)=O)[C@H](OC(C)=O)CC[C@]2(C)[C@@]3([H])CC=C4[C@](CC[C@]5(C)[C@@]4([H])[C@@H](C)[C@H](C)CC5)(C)[C@]3(C)CC[C@]21[H]		
Formula	$C_{32}H_{50}O_4$	M.Wt	498.7
Solubility	≤5mg/ml in ethanol;25mg/ml in DMSO;25mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	β-acetyl-Boswellic Acid		

Background

β-acetyl-Boswellic Acid is a specific, nonreducing-type inhibitor of the 5-LO product formation with selectivity over 12-LO and COX [1][2].

5-lipoxygenase (5-LO) is a member of the lipoxygenase family of enzymes and transforms EFA substrates into leukotrienes.

In rat peritoneal neutrophils, boswellic acids concentration dependently decreased the formation of leukotriene B4 from endogenous arachidonic acid. In isolated human platelets, boswellic acids in concentrations up to 400 μM did not impair the cyclooxygenase and 12-lipoxygenase [1]. In calcium/calcium ionophore-stimulated peritoneal neutrophils of rats, boswellic acids significantly decreased production of LTB4 and total 5-lipoxygenase products with EC50 value of about 30 μg/ml [2]. In six human myeloid leukemia cell lines, boswellic acid acetate, a 1:1 mixture of α-boswellic acid

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acetate and β-boswellic acid acetate induces apoptosis through caspase-mediated pathways [4].

Boswellic acids are pentacyclic triterpenes with putative anti-inflammatory effects. In a mouse model of osteoarthritis (OA), boswellic acid significantly attenuated articular cartilage erosion and significantly reduced knee synovitis and osteophyte formation. In synovium of mice, boswellic acid directly inhibit IL-1β and TLR4 induced inflammatory cytokines production [3].

References:
[1]. Safayhi H, Mack T, Sabieraj J, et al. Boswellic acids: novel, specific, nonredox inhibitors of 5-lipoxygenase. J Pharmacol Exp Ther. 1992 Jun;261(3):1143-6.
[2]. Ammon HP, Safayhi H, Mack T, et al. Mechanism of antiinflammatory actions of curcumine and boswellic acids. J Ethnopharmacol. 1993 Mar;38(2-3):113-9.
[3]. Wang Q, Pan X, Wong HH, et al. Oral and topical boswellic acid attenuates mouse osteoarthritis. Osteoarthritis Cartilage. 2014 Jan;22(1):128-32.
[4]. Xia L, Chen D, Han R, et al. Boswellic acid acetate induces apoptosis through caspase-mediated pathways in myeloid leukemia cells. Mol Cancer Ther. 2005 Mar;4(3):381-8.

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