For Research Use Only

Bardoxolone

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Catalog Number: CM04716

产品信息

Catalog Number:
CM04716

CAS号:
218600-44-3

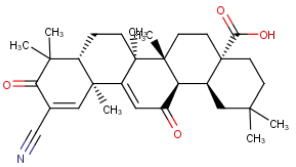
分子式:
$C_{31}H_{41}NO_4$

主要靶点:
Nrf2|Others

主要通路:
其他|免疫与炎症

分子量:
491.7

溶解度:
DMSO:100 mg/mL (203.39 mM),Sonification is recommended.



体外活性

Bardoxolone methyl is a novel synthetic triterpenoid and antioxidant inflammation modulator that potently induces Nrf2 and inhibits NF-κB and Janus-activated kinase/STAT signaling. Bardoxolone methyl has been shown to induce differentiation, inhibit proliferation, and induce apoptosis in cancer cell lines[2].

体内活性

Kidney sections from Bardoxolone methyl-treated monkeys demonstrates decreased megalin protein expression although similar mRNA expression across groups. The visualized decrease in megalin protein expression is confirmed by densitometry analyses, which demonstrated that Bardoxolone methyl administration significantly decreased megalin protein expression in the monkey kidney. Bardoxolone methyl administration does not affect the protein expression of cubilin in the kidney or the mRNA expression of cubilin in the kidney. The creatinine clearance in monkeys administered Bardoxolone methyl significantly differed from that at baseline and in vehicle-treated animals on day 28. After 28 days of Bardoxolone methyl administration, urinary albumin-to-creatinine ratios (UACRs), determined from the 24-hour urine collections, are significantly increased compared with those in animals receiving vehicle. Of note, UACRs decreases 53.3% in vehicle-treated animals and increased 27.9% in Bardoxolone methyl-treated monkeys[3]. Male C57BL/6J mice are administered oral BARD during HFD feeding (HFD/BARD), only fed a high-fat diet (HFD), or fed low-fat diet (LFD) for 21 weeks. Compared with LFD mice, HFD mice have a marked increase in the number of F4/80 crown-like structures (+95%; p<0.001), which is effectively prevented by BARD (−50%; p<0.01). Similarly, the number of F4/80 interstitial macrophages is significantly higher in HFD mice by 98% (p<0.001) compared with LFD mice and by 32% (p<0.01) compared with HFD/BARD mice[4].

描述

CDDO is a synthetic oleanane triterpenoid that blocks the cellular synthesis of inducible nitric oxide synthase and inducible COX-2 in INF-γ-activated mouse macrophages with an IC50 value of 0.4 nM. By suppressing reactive oxygen and nitrogen species (ROS/RNS) formation, it promotes the cellular control of ROS/RNS levels that would lead to DNA damage associated with tumorigenesis. In various Y cell lines, CDDO has been shown to specifically inhibit proliferation and induce apoptosis. Mechanism studies revealed that CDDO is a ligand for peroxisome proliferator-activated receptor γ, and also that it induces genes regulated by Nrf2, including heme oxygenase-1 and eotaxin-1, which play a role in antioxidant response element signaling activity.

储存

Powder: -20°C for 3 years | In solvent: -80°C for 2 years