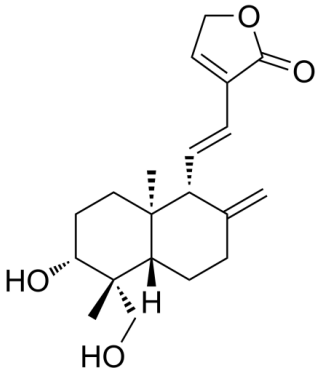
Data Sheet

Product Name:	14-Deoxy-11,12-didehydroandrographolide
Cat. No.:	CS-7534
CAS No.:	42895-58-9
Molecular Formula:	$C_{20}H_{28}O_4$
Molecular Weight:	332.43
Target:	NF-κB
Pathway:	NF-κB
Solubility:	DMSO : 110 mg/mL (330.90 mM; Need ultrasonic); DMF : 100 mg/mL (300.82 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

14-Deoxy-11,12-didehydroandrographolide is an analogue of Andrographolide. 14-Deoxy-11,12-didehydroandrographolide inhibits **NF-κB** activation. IC50 & Target: NF-κB[1] **In Vitro:** 14-deoxy-11,12-didehydroandrographolide, a naturally occurring noncytotoxic analogue of Andrographolide, effectively reduces Ovalbumin (OVA)-induced inflammatory cell recruitment into bronchoalveolar lavage (BAL) fluid, IL-4, IL-5, IL-13, and eotaxin production, serum IgE synthesis, pulmonary eosinophilia, mucus hypersecretion, mast cell degranulation, and airway hyper-responsiveness (AHR) in a mouse asthma model, probably via inhibition of NF-κB activity [1]. **In Vivo:** 14-deoxy-11,12-didehydroandrographolide (1 mg/kg) dramatically reduces resistance (RI) and restores Cdyn in OVA-challenged mice in response to methacholine[1].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: [1]A549 cells (3×10^3/well), BEAS-2B cells (5×10^3/well), and RBL-2H3 cells (3×10^3/well) are seeded in flat-bottomed 96-well plates overnight and then incubated with increasing concentrations (3-120 μM) of 14-deoxy-11,12-didehydroandrographolide or Andrographolide for 24 and 48 h at 37°C. Cell viability is analyzed using the CellTiter 96 AQ_{ueous} cell proliferation assay. This MTS assay is based on the ability of viable cells to convert a soluble tetrazolium salt to a colored formazan product. Absorbance is recorded at 490 nm[1].

Animal Administration: 14-deoxy-11,12-didehydroandrographolide is prepared in vehicle (1% DMSO in saline) (Mice)[1].[1]Mice[1] Female BALB/c mice, 6 to 8 weeks old, are sensitized and challenged with OVA. Briefly, mice are sensitized by ip injections of 20 μg of OVA and 4 mg of $Al(OH)_3$ suspended in 0.1 mL of saline on days 0 and 14. On days 22, 23, and 24, mice are challenged with 1% OVA aerosol for 30 min. 14-deoxy-11,12-didehydroandrographolide (0.1, 0.5, and 1 mg/kg) or vehicle (1% DMSO) in 0.1 mL of saline is given by ip injections 2 h before and 10 h after each OVA aerosol challenge. Saline aerosol is used as a negative control.

References:

[1]. Guan SP, et al. Protective role of 14-deoxy-11,12-didehydroandrographolide, a noncytotoxic analogue ofandrographolide, in allergic airway inflammation. J Nat Prod. 2011 Jun 24;74(6):1484-90.

CAIndexNames:

2(5H)-Furanone,3-[(1E)-2-[(1R,4aS,5R,6R,8aR)-decahydro-6-hydroxy-5-(hydroxymethyl)-5,8a-dimethyl-2-methylene-1-naphthalenyl]ethenyl]-

SMILES:

O=C1OCC=C1/C=C/[C@@H]2C(CC[C@]3([H])[C@](C)(CO)[C@H](O)CC[C@@]23C)=C

Caution: Product has not been fully validated for medical applications. For research use only.

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