

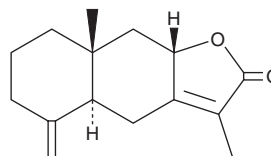
PRODUCT INFORMATION



Atractylenolide II

Item No. 36173

CAS Registry No.: 73069-14-4
Formal Name: 4aS,5,6,7,8,8aR,9,9aS-octahydro-3,8a-dimethyl-5-methylene-naphtho[2,3-b]furan-2(4H)-one
Synonym: 2-Atractylenolide
MF: $C_{15}H_{20}O_2$
FW: 232.3
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 219 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥ 4 years
Item Origin: Plant/Atractylodes macrocephala



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Atractylenolide II is supplied as a solid. A stock solution may be made by dissolving the atractylenolide II in the solvent of choice, which should be purged with an inert gas. Atractylenolide II is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of atractylenolide II in ethanol and DMF is approximately 10 mg/ml and approximately 20 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of atractylenolide II can be prepared by directly dissolving the solid in aqueous buffers. The solubility of atractylenolide II in PBS (pH 7.2) is approximately 0.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Atractylenolide II is a sesquiterpene that has been found in *D. metel* and has diverse biological activities.¹⁻³ It inhibits proliferation of, as well as halts the cell cycle at the G_2/M phase and induces apoptosis in, DU145 and LNCaP prostate cancer cells when used at concentrations of 50 and 100 μM .¹ Atractylenolide II also inhibits LPS-induced nitric oxide (NO) production in RAW 264.7 cells ($\text{IC}_{50} = 17.73 \mu\text{M}$).² It increases Nrf2 protein levels when used at a concentration of 50 μM and reduces reactive oxygen species (ROS) production induced by irradiation in HaCaT cells.³ Atractylenolide II (60 mg/kg) prevents cutaneous and intestinal ulcers induced by irradiation in mice.

References

1. Wang, J., Nasser, M.I., Adlat, S., *et al.* Atractylenolide II induces apoptosis of prostate cancer cells through regulation of AR and JAK2/STAT3 signaling pathways. *Molecules* **23**(12), 3298 (2018).
2. Tan, J.-Y., Liu, Y., Cheng, Y.-G., *et al.* Anti-inflammatory sesquiterpenoids from the leaves of *Datura metel* L. *Fitoterapia* **142**, 104531 (2020).
3. Xiao, C., Xu, C., He, N., *et al.* Atractylenolide II prevents radiation damage via MAPKp38/Nrf2 signaling pathway. *Biochem. Pharmacol.* **177**, 114007 (2020).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM