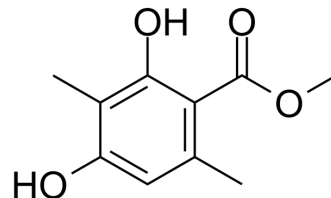


Atraric acid

Cat. No.:	HY-N2908
CAS No.:	4707-47-5
Molecular Formula:	C ₁₀ H ₁₂ O ₄
Molecular Weight:	196.2
Target:	Androgen Receptor; NO Synthase; p38 MAPK; NF-κB
Pathway:	Vitamin D Related/Nuclear Receptor; Immunology/Inflammation; MAPK/ERK Pathway; NF-κB
Storage:	4°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (509.68 mM; Need ultrasonic)																					
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent</th> <th rowspan="2">Mass</th> <th colspan="3">Concentration</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Preparing Stock Solutions</td> <td>1 mM</td> <td>5.0968 mL</td> <td>25.4842 mL</td> <td>50.9684 mL</td> </tr> <tr> <td>5 mM</td> <td>1.0194 mL</td> <td>5.0968 mL</td> <td>10.1937 mL</td> </tr> <tr> <td>10 mM</td> <td>0.5097 mL</td> <td>2.5484 mL</td> <td>5.0968 mL</td> </tr> </tbody> </table>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	5.0968 mL	25.4842 mL	50.9684 mL	5 mM	1.0194 mL	5.0968 mL	10.1937 mL	10 mM	0.5097 mL	2.5484 mL	5.0968 mL
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	Please refer to the solubility information to select the appropriate solvent.																					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (12.74 mM); Clear solution																					

BIOLOGICAL ACTIVITY

Description	Atraric acid (Methyl atrarate) is a specific androgen receptor (AR) antagonist with anti-inflammatory and anticancer effects. Atraric acid represses the expression of the endogenous prostate specific antigen gene in both LNCaP and C4-2 cells. Atraric acid can also inhibit the synthesis of NO and cytokine, and suppress the MAPK-NFκB signaling pathway. Atraric acid can be used to research prostate diseases and inflammatory diseases ^{[1][2]} .
IC₅₀ & Target	Androgen receptor, NO synthesis, MAPK-NFκB pathway ^{[1][2]}
In Vitro	Atraric acid (10 μM; CV1 cells) represses the transactivation function mediated by Dihydrotestosterone-induced human AR ^[1] . Atraric acid (10 μM; PCa cells) inhibits the expression of the PSA gene in both androgen-dependent and androgen-independent PCa cells ^[1] . Atraric acid (1-300 μM; 24 h) dose-dependently inhibits pro-inflammatory cytokine, nitric oxide, prostaglandin E2 in LPS-stimulated RAW264.7 cells, but does not influence the cell viability ^[2] .

Atraric acid (100 and 300 μ M; 18 h or 4 h) downregulates the expression of phosphorylated I κ B, extracellular signal-regulated kinases (ERK) and nuclear factor kappa B (NF κ B) signaling pathway to exhibit anti-inflammatory effects in LPS-stimulated RAW264.7 cells^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay^[2]

Cell Line:	RAW264.7 cells
Concentration:	1-300 μ M
Incubation Time:	24 h
Result:	Did not influence the cell viability.

Western Blot Analysis^[2]

Cell Line:	RAW264.7 cells
Concentration:	100 and 300 μ M
Incubation Time:	18 h or 4 h
Result:	Inhibited LPS-Induced expression of iNOS and COX-2 in a dose-dependent manner. Suppressed LPS-stimulated phosphorylation of the Nf κ b signaling pathway.

In Vivo

Atraric acid (10, 30 mg/kg; i.p.; single dosage) inhibits the production of pro-inflammatory cytokines and reduces pathological damages in LPS-induced endotoxin shock mice^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female BALB/c mice (7 weeks old, 17-20 g; LPS-induced endotoxin shock) ^[2]
Dosage:	10, 30 mg/kg
Administration:	i.p.; single dosage
Result:	Inhibited the production of pro-inflammatory cytokines. Reduced pathological damages such as vasodilation and bleeding.

REFERENCES

[1]. Roell D, Baniahmad A. The natural compounds atraric acid and N-butylbenzene-sulfonamide as antagonists of the human androgen receptor and inhibitors of prostate cancer cell growth. *Mol Cell Endocrinol.* 2011 Jan 30;332(1-2):1-8.

[2]. Papaioannou M, et al. The natural compound atraric acid is an antagonist of the human androgen receptor inhibiting cellular invasiveness and prostate cancer cell growth. *J Cell Mol Med.* 2009 Aug;13(8B):2210-2223.

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

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