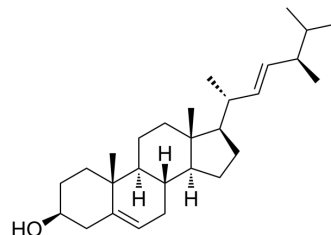


Brassicasterol

Cat. No.:	HY-113289
CAS No.:	474-67-9
Molecular Formula:	C ₂₈ H ₄₆ O
Molecular Weight:	398.66
Target:	Akt; Androgen Receptor; Bacterial; Drug Metabolite; HSV
Pathway:	PI3K/Akt/mTOR; Vitamin D Related/Nuclear Receptor; Anti-infection; Metabolic Enzyme/Protease
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	Ethanol : 4.76 mg/mL (11.94 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>2.5084 mL</td> <td>12.5420 mL</td> <td>25.0840 mL</td> </tr> <tr> <td>5 mM</td> <td>0.5017 mL</td> <td>2.5084 mL</td> <td>5.0168 mL</td> </tr> <tr> <td>10 mM</td> <td>0.2508 mL</td> <td>1.2542 mL</td> <td>2.5084 mL</td> </tr> </tbody> </table>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	2.5084 mL	12.5420 mL	25.0840 mL	5 mM	0.5017 mL	2.5084 mL	5.0168 mL	10 mM	0.2508 mL	1.2542 mL	2.5084 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% EtOH >> 90% corn oil Solubility: ≥ 0.5 mg/mL (1.25 mM); Clear solution																					

BIOLOGICAL ACTIVITY

Description	Brassicasterol is a metabolite of Ergosterol and has cardiovascular protective effects. Brassicasterol exerts anticancer effects in prostate cancer through dual targeting of AKT and androgen receptor signaling pathways. Brassicasterol inhibits HSV-1 (IC ₅₀ =1.2 μM) and Mycobacterium tuberculosis. Brassicasterol also inhibits sterol δ 24-reductase, slowing the progression of atherosclerosis. Brassicasterol is also a cerebrospinal fluid biomarker for Alzheimer's disease ^{[1][2][3][4][5][6]} .
IC₅₀ & Target	HSV-1 1.2 μM (IC ₅₀)
In Vitro	Brassicasterol (10 μM; 24 h) downregulates dihydrotestosterone (DHT)-induced expression of androgen receptor (AR) and prostate-specific antigen (PSA) in LNCaP cells ^[4] . Brassicasterol (50 μM; 48 h) Arrests the cell cycle of LNCaP in the sub-G1 phase and induces cell apoptosis ^[4] . Brassicasterol (10 μM; 48 h) also inhibits LNCaP cell migration ^[4] . Brassicasterol (100 μg/mL; 48 h) In a 3D organoid model, it can inhibit AKT, and its inhibitory effect on AR-independent

cancers and AR-dependent cell^[4].

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

Cell Migration Assay ^[4]

Cell Line:	LNCaP cells
Concentration:	0, 10, and 50 μ M
Incubation Time:	5 days
Result:	Showed 54% cell migration inhibitory effect.

REFERENCES

[1]. Yasuharu Yazawa, et al. Inhibitory effect of ergosterol on bladder carcinogenesis is due to androgen signaling inhibition by brassicasterol, a metabolite of ergosterol. *J Nat Med.* 2020 Sep;74(4):680-688.

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[3]. Yinzhu Xu, et al. Brassicasterol from Edible Aquacultural Hippocampus abdominalis Exerts an Anti-Cancer Effect by Dual-Targeting AKT and AR Signaling in Prostate Cancer. *Biomedicines.* 2020 Sep 22;8(9):370.

[4]. Vanmierlo T, et al. The plant sterol brassicasterol as additional CSF biomarker in Alzheimer's disease. *Acta Psychiatr Scand.* 2011 Sep;124(3):184-92.

[5]. Fernández C, et al. Inhibition of cholesterol biosynthesis by Delta22-unsaturated phytosterols via competitive inhibition of sterol Delta24-reductase in mammalian cells. *Biochem J.* 2002 Aug 15;366(Pt 1):109-19.

[6]. Tansley G, et al. Sterol lipid metabolism in down syndrome revisited: down syndrome is associated with a selective reduction in serum brassicasterol levels. *Curr Gerontol Geriatr Res.* 2012;2012:179318.

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

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