(Z)-Guggulsterone

Cat. No.: HY-110066

CAS No.: 39025-23-5

Molecular Formula: $C_{21}H_{28}O_2$

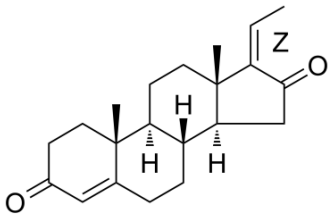
Molecular Weight: 312.45

Target: Apoptosis; VEGFR; Akt

Pathway: Apoptosis; Protein Tyrosine Kinase/RTK; PI3K/Akt/mTOR

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 10 mg/mL (32.01 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2005 mL	16.0026 mL	32.0051 mL
	5 mM	0.6401 mL	3.2005 mL	6.4010 mL
	10 mM	0.3201 mL	1.6003 mL	3.2005 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1 mg/mL (3.20 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Z-guggulsterone, a constituent of Indian Ayurvedic medicinal plant Commiphora mukul, inhibits the growth of human prostate cancer cells by causing apoptosis. Z-guggulsterone inhibits angiogenesis by suppressing the VEGF–VEGF-R2–Akt signaling axis[1].

IC_{50} & Target		
	VEGF-R2	Akt

In Vitro

Z-guggulsterone (10, 20 μM; 24 or 48 hours) causes a decrease in the level of VEGF-R2 protein in HUVEC[1].

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

Western Blot Analysis[1]

Cell Line:	Vascular endothelial growth factor (VEGF)

Concentration:	10, 20 μM
Incubation Time:	24 or 48 hours
Result:	Caused a decrease in the level of VEGF-R2 protein in HUVEC.

In Vivo

Z-guggulsterone (oral; 1 mg; 5 times/week) results in a statistically significantly decrease in tumor volume and wet tumor weight[1].

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

Animal Model:	Male nude mice (5–6 weeks old) s.c. implanted with DU145 cell-containing Matrigel plugs
Dosage:	1 mg
Administration:	Oral; 5 times/week
Result:	Resulted in a statistically significantly decrease in tumor volume and wet tumor weight.

REFERENCES

[1]. Xiao D, et al. z-Guggulsterone, a constituent of Ayurvedic medicinal plant Commiphora mukul, inhibits angiogenesis in vitro and in vivo. Mol Cancer Ther. 2008 Jan;7(1):171-80.

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