Cyasterone

Cat. No.: HY-N0211

CAS No.: 17086-76-9

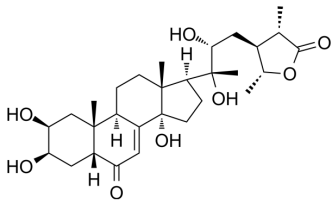
Molecular Formula: $C_{29}H_{44}O_8$

Molecular Weight: 520.65

Target: EGFR; Apoptosis

Pathway: JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Apoptosis

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (192.07 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9207 mL	9.6034 mL	19.2068 mL
	5 mM	0.3841 mL	1.9207 mL	3.8414 mL
	10 mM	0.1921 mL	0.9603 mL	1.9207 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: ≥ 2.5 mg/mL (4.80 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.80 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cyasterone, a natural EGFR inhibitor, mainly isolated from Ajuga decumbens Thunb (Labiatae). Cyasterone manifests anti-proliferation effect by induced apoptosis and cell cycle arrests. Cyasterone may serves as a therapeutic anti-tumor agent against human tumors[1].

IC_{50} & Target

IC50: EGFR[1]

In Vitro

Cyasterone exerts cytotoxicity on multiple cell lines: HeLa (IC_{50}=77.24 μg/ml); HepG-2 (IC_{50}=52.03 μg/ml); MCF-7 (IC_{50}=82.07 μg/ml) and MCF-7 (IC_{50}=82.07 μg/ml). And It has none cytotoxicity (IC_{50}>400 μg/ml) on 3 types of carcinoma (HT-29, Caco-2, T47D) and 1 type of normal (NIH 3T3) cell lines[1].
Cyasterone (0-60 μg/ml; 48 hours) causes a significantly decreasing of the cell proliferation. It inhibits cell growth as a dose-dependent manner, exhibits IC_{50} values of 38.50 μg/ml and 32.96 μg/ml, respectively[1].

Cyasterone (0-60 μg/ml; 24 hours) decreases p-EGFR, p-MEK, and p-mTOR as a dose-dependent manner in A549 cells, it affects the MAPK signaling pathway activities[1].

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

Cell Viability Assay[1]

Cell Line:	A549 cells and MGC823 cells
Concentration:	0 μg/ml, 20 μg/ml, 40 μg/ml, 60 μg/ml
Incubation Time:	24 hours
Result:	Inhibited cell proliferation as a dose-dependent manner.

Western Blot Analysis[1]

Cell Line:	A549 cells
Concentration:	0 μg/ml, 20 μg/ml, 40 μg/ml, 60 μg/ml
Incubation Time:	24 hours
Result:	Surpressed p-EGFR, p-MEK, and p-mTOR expression.

In Vivo

Cyasterone (intraperitoneal injection; 5 mg/kg, 10 mg/kg and 15 mg/kg; 21 days) has anti-proliferation effect in vivo and inhibits MGC823 cells xenografted tumor growth in vivo with few changes in body weights[2].

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

Animal Model:	MGC823 xenograft tumor in BALB/C-nu mice[1]
Dosage:	5 mg/kg, 10 mg/kg and 15 mg/kg
Administration:	Intraperitoneal injection
Result:	Inhibited MGC823 xenograft tumor growth in vivo.

REFERENCES

[1]. Lu X, et al. Anti-proliferation effects, efficacy of cyasterone in vitro and in vivo and its mechanism. Biomed Pharmacother. 2016 Dec;84:330-339.

[2]. Lu X,et al. Anti-proliferation effects, efficacy of cyasterone in vitro and in vivo and its mechanism.Biomed Pharmacother. 2016 Dec;84:330-339.

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