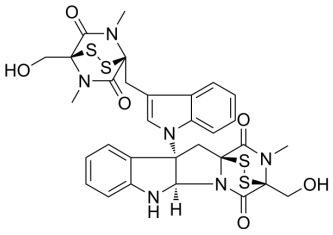
Chetomin

Cat. No.:	HY-107553
CAS No.:	1403-36-7
Molecular Formula:	$C_{31}H_{30}N_6O_6S_4$
Molecular Weight:	710.87
Target:	HSP; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Apoptosis
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Chetomin, an active component of Chaetomium globosum, is a heat shock protein 90/hypoxia-inducible factor 1 alpha (Hsp90/HIF1α) pathway inhibitor. Chetomin is a potent, nontoxic non-small cell lung cancer cancer stem cells (NSCLC CSC)-targeting molecule[1].
IC_{50} & Target	HSP90

In Vitro

Chetomin (0~10 μM; 24 hours; H460 and H1299 cells) shows progressively lower expression of several survival-promoting proteins promoted by Hsp90/HIF1α activity, including insulin-like growth factor 1 (IGF1 R), epidermal growth factor receptor (EGFR), Src, mitogen-activated protein kinase kinase 1/2 (MEK1/2), activation of protein kinase B (Akt), and mammalian target of rapamycin (mTOR) [1].

Chetomin (0~10 μM; 24 hours; H1299 cells) elicits cell cycle arrest in susceptible and chemoresistant NSCLC cell lines[1].

. Chetomin (1 μM; 3 days; H460 and H1299 cells) pretreatment abolishes their sphere-forming capacity. Chetomin inhibits sphere-forming by NSCLC CSCs within a nanomolar range, and proliferation of susceptible and chemoresistant NSCLC non-CSCs within a micromolar range. Chetomin (24 h) decreases HIF-response element activity in H460 and H1299 monolayer cultures. Chetomin (0~10 μM) specifically inhibits the Hsp90-HIF1α binding interaction in HIF1α's N-terminus [1].

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

Western Blot Analysis[1]

Cell Line:	H460 and H1299 cells
Concentration:	0~10 μM
Incubation Time:	24 hours
Result:	Showed progressively lower expression of several survival-promoting proteins promoted by Hsp90/HIF1α activity, including insulin-like growth factor 1 (IGF1 R), epidermal growth factor receptor (EGFR), Src, mitogen-activated protein kinase kinase 1/2 (MEK1/2), activation of protein kinase B (Akt), and mammalian target of rapamycin (mTOR).

Cell Cycle Analysis[1]

Cell Line:	H1299 cells

Concentration:	0~10 μM
Incubation Time:	24 hours
Result:	Elicited cell cycle arrest in susceptible and chemoresistant NSCLC cell lines.

In Vivo

Chetomin (0~100 mg/kg; p.o.) inhibits lung tumorigenesis in NSCLC mouse models[1].
Chetomin markedly decreases tumor formation in several murine models of NSCLC[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Mouse
Dosage:	0~100 mg/kg
Administration:	P.o.
Result:	Inhibited lung tumorigenesis in NSCLC mouse models.

REFERENCES

[1]. Min S, et al. Chetomin, a Hsp90/HIF1α pathway inhibitor, effectively targets lung cancer stem cells and non-stem cells. Cancer Biol Ther. 2020;21(8):698-708.

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