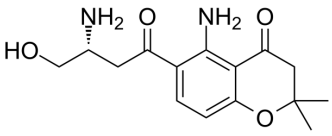
Fusarochromanone

Cat. No.:	HY-136901
CAS No.:	802915-53-3
Molecular Formula:	$C_{15}H_{20}N_2O_4$
Molecular Weight:	292.33
Target:	Reactive Oxygen Species
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Fusarochromanone (FC-101) is a fungal metabolite with potent anti-angiogenic and anti-cancer activity[1].
Fusarochromanone-activated JNK pathway is attributed to induction of reactive oxygen species (ROS)[2].

In Vitro

Fusarochromanone (FC101; 10 μM; 24 hours) induces apoptosis and an increase in proportion of cells in the sub-G1 phase in both HaCat and P9-WT cell lines[1].
Fusarochromanone (FC101; 0-1 μM; 24 h) induces the cleavage of both caspase-3 and PARP, a well-known substrate for activated caspases. FC101 does not affect the expression of the anti-apoptotic proteins, Bcl-2, Bcl-XL, Mcl-1, or the pro-apoptotic proteins BAD, BAK, BAX[1].
Fusarochromanone (FC101) exhibits very potent in-vitro growth inhibitory effects (IC50 ranging from 10 nM-2.5 μM) against HaCat (pre-malignant skin), P9-WT (malignant skin), MCF-7 (low malignant breast), MDA-231 (malignant breast), SV-HUC (premalignant bladder), UM-UC14 (malignant bladder), and PC3 (malignant prostate) in a time-course and dose-dependent manner, with the UM-UC14 cells being the most sensitive.
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cycle Analysis[1]

Cell Line:	HaCat and P9-WT cell lines
Concentration:	10 μM
Incubation Time:	24 hours
Result:	Showed cells in the G2 and M phases of the cell cycle for both cell lines.

Western Blot Analysis[1]

Cell Line:	MDA-MB-231 cells
Concentration:	0.05 μM, 0.1 μM, 0.2 μM, 0.5 μM, 1 μM
Incubation Time:	24 hours
Result:	Induced the cleavage of both caspase-3 and PARP.

In Vivo

Fusarochromanone (8 mg/kg; IP; 5 days per week; for 3.5 weeks) Is well tolerated, non-toxic, and achieved a 30% reduction in tumor size at a dose of 8 mg/kg/day[1].

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Animal Model:	SCID Beige mice (CB17/Icr.Cg-PrkdcscidLystbg/Crl) injected with SRB12-p9 cells[1]
Dosage:	8 mg/kg
Administration:	IP; 5 days per week; for 3.5 weeks
Result:	Achieved a 30% reduction in tumor size at a dose of 8 mg/kg/day.

REFERENCES

[1]. Elahe Mahdavian, et al.Biological activities of fusarochromanone: a potent anti-cancer agent. BMC Res Notes. 2014 Sep 3;7:601.

[2]. Ying Gu, et al.Fusarochromanone-induced reactive oxygen species results in activation of JNK cascade and cell death by inhibiting protein phosphatases 2A and 5. Oncotarget. 2015 Dec 8;6(39):42322-33.

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