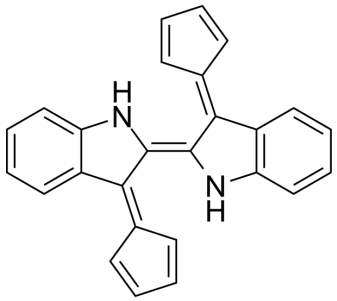
Fulvene-5

Cat. No.:	HY-12803
CAS No.:	1075723-01-1
Molecular Formula:	$C_{26}H_{18}N_2$
Molecular Weight:	358.43
Target:	NADPH Oxidase; Reactive Oxygen Species
Pathway:	Metabolic Enzyme/Protease; Immunology/Inflammation; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Fulvene-5 is a potent NADPH oxidase 4 (NOX4) inhibitor with antioxidant properties. Fulvene-5 is a reactive oxygen species (ROS) modifying agent and a potent radioprotector. Fulvene-5 has antitumor activity[1][2][3].
IC_{50} & Target	NOX4
In Vitro	Fulvene-5 (10 μM; 1 hour) facilitates the reversal of HCT116 TP53 wild type (WT) and HCT116 isogenic TP53 null mutant (Mut) cell cultures adaptive responses from pro-survival to radio-sensitization and vice versa. These changes are accompanied by corresponding reversals in the translocation of survivin to the nuclei of TP53 WT and to the cytoplasm of TP53 Mut cells. The potential role of NOX4 in the expression of the survivin-associated adaptive response is investigated by transfecting HCT116 cells with NOX4 siRNA oligomers to inhibit NOX4 expression. Under these conditions NOX4 expression is inhibited by about 50%[1]. Fulvene-5 (0.5-1.0 μM) treatment decreases the expression of Ang2, delta-like ligand 4 (DLL4), placental growth factor (PLGF), and Nrarp in a dose-dependent manner in bEnd.3 cells[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Fulvene-5 (120 mg/kg/d; intraperitoneal injection; daily; for 2 weeks; nude mice) treatment potently inhibits hemangioma growth in mice[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Nude mice injected with bEnd.3 cells[2]
Dosage:	120 mg/kg/d
Administration:	Intraperitoneal injection; daily; for 2 weeks
Result:	Tumor growth in mice was significantly reduced.

REFERENCES

[1]. Murley JS, et al. ROS modifiers and NOX4 affect the expression of the survivin-associated radio-adaptive response. Free Radic Biol Med. 2018 Aug 1;123:39-52.

[2]. Bhandarkar SS, et al. Fulvene-5 potently inhibits NADPH oxidase 4 and blocks the growth of endothelial tumors in mice. J Clin Invest. 2009 Aug;119(8):2359-65.

[3]. Weyemi U, et al. Inactivation of NADPH oxidases NOX4 and NOX5 protects human primary fibroblasts from ionizing radiation-induced DNA damage. Radiat Res. 2015 Mar;183(3):262-70.

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