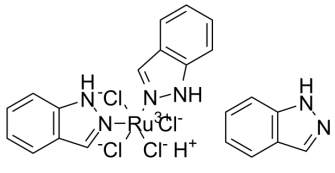
KP1019

Cat. No.:	HY-19118
CAS No.:	124875-20-3
Molecular Formula:	$C_{21}H_{19}Cl_4N_6Ru$
Molecular Weight:	598.3
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	KP1019 (FFC14A) is a Ru(III)-based anti-metastatic and cytotoxic anti-cancer agent. KP1019 induces DNA damage and apoptosis in cancer cells[1][2].
In Vitro	KP1019 is internalized by yeast and induces mutations, cell cycle delay, and cell death. KP1019 sensitivity of strains defective in DNA repair is examined, ultimately showing that rad1Δ, rev3Δ, and rad52Δ yeast are hypersensitive to KP1019, suggesting that nucleotide excision repair (NER), translesion synthesis (TLS), and recombination each play a role in drug tolerance[1]. KP1019 inhibits proliferation of ovarian tumor cells, induces DNA damage and apoptosis in colon carcinoma cells. KP1019 causes interstrand cross-links and bulky DNA adducts in mammalian cell lines[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	KP1019 treatment inhibits primary tumour growth in in the model of MCa mammary carcinoma. None of the treatments reduced the development of lung metastatases in this tumour model[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	CBA female mice bearing murine mammary carcinoma[3]
Dosage:	40 mg/kg and 80 mg/kg
Administration:	I.P.; two dose levels of 40 mg/kg from day 6 to day 11, and 80 mg/kg on days 7, 9, and 11
Result:	Inhibited primary tumour growth.

REFERENCES

[1]. Shannon K Stevens, et al. The anticancer ruthenium complex KP1019 induces DNA damage, leading to cell cycle delay and cell death in Saccharomyces cerevisiae. Mol Pharmacol. 2013 Jan;83(1):225-34.

[2]. Gemma K Gransbury, et al. Comparison of KP1019 and NAMI-A in tumour-mimetic environments. Metallomics. 2016 Aug 1;8(8):762-73.

[3]. A Bergamo, et al. Inhibitory Effects of the Ruthenium Complex KP1019 in Models of Mammary Cancer Cell Migration and Invasion. Met Based Drugs. 2009;2009:681270.

Caution: Product has not been fully validated for medical applications. For research use only.

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