

## hnRNPK-IN-1

## Chemical Properties

CAS No. :	2313528-04-8
Formula:	C <sub>23</sub> H <sub>21</sub> N <sub>3</sub> O <sub>5</sub>
Molecular Weight:	419.43
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

## Biological Description

Description	hnRNPK-IN-1 is a specific ligand that binds to the heterogeneous nuclear ribonucleoprotein K (hnRNPK) with high affinity, as evidenced by dissociation constant (K <sub>d</sub> ) values of 4.6 μM and 2.6 μM determined using surface plasmon resonance (SPR) and microscale thermophoresis (MST), respectively. This binding disrupts the interaction between hnRNPK and the c-myc promoter, thereby inhibiting c-myc transcription. Furthermore, hnRNPK-IN-1 induces apoptosis in HeLa cells and exhibits significant anti-tumor activity.
Targets(IC50)	Apoptosis,c-Myc
In vitro	Method: Human cervical cancer cells (HeLa), human lung adenocarcinoma cells (A549), human osteosarcoma epithelial cells (U2OS), human melanoma cells (A375), and human hepatocellular carcinoma cells (HuH7) were treated with hnRNPK-IN-1 at graded concentrations for 48 h. Cell growth inhibition was assessed using the MTT assay. Result: hnRNPK-IN-1 dose-dependently inhibited the proliferation of various cancer cells, with IC <sub>50</sub> values of 2.21, 3.04, 1.36, 3.59, and 2.94 μM against HeLa, A549, U2OS, A375, and HuH7 cells, respectively. The IC <sub>50</sub> value against normal HEK293 cells was 34.72 μM, demonstrating selective antiproliferative activity [1]. Method: HeLa cells were treated with hnRNPK-IN-1 (1.25, 2.5 μM) for 24 h. Chromatin immunoprecipitation (ChIP) assay was used to detect the binding of hnRNP K to the c-myc promoter DNA. Result: hnRNPK-IN-1 dose-dependently disrupted the binding of hnRNP K to the c-myc promoter DNA, with significantly reduced amounts of hnRNP K-bound DNA observed in both the 1.25 μM and 2.5 μM treatment groups [1].
In vivo	Method: Nude mice bearing HeLa cell xenografts (dosing initiated when tumor volume reached approximately 100 mm <sup>3</sup> ) were intraperitoneally administered hnRNPK-IN-1 at doses of 6.7 and 20.0 mg/kg once daily for three weeks. A vehicle control group and a cisplatin group (1.0 mg/kg) were also included. Tumor volume and body weight were measured every two days, and tumor weight was measured at the end of the study. Result: hnRNPK-IN-1 at doses of 6.7 and 20.0 mg/kg achieved tumor inhibition rates of 54.1% and 69.3%, respectively. Tumor weights in the treatment groups were significantly lower than those in the vehicle control group (mean 459.7 mg and 307.4 mg vs. 1000.1 mg, respectively) [1].

## Solubility Information

Solubility	DMSO: 4 mg/mL (9.54 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3842 mL	11.9209 mL	23.8419 mL
5 mM	0.4768 mL	2.3842 mL	4.7684 mL
10 mM	0.2384 mL	1.1921 mL	2.3842 mL
50 mM	0.0477 mL	0.2384 mL	0.4768 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

## Reference

Bing Shu, et al. Syntheses and evaluation of new Quinoline derivatives for inhibition of hnRNP K in regulating oncogene c-myc transcription. Bioorg Chem. 2019 Apr;85:1-17.

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