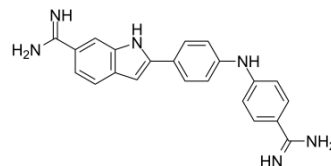


Synucleozid

Cat. No.:	HY-135902
CAS No.:	502139-01-7
Molecular Formula:	C ₂₂ H ₂₀ N ₆
Molecular Weight:	368.43
Target:	DNA/RNA Synthesis
Pathway:	Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	<p>Synucleozid (NSC 377363) is a potent inhibitor of the <i>SNCA</i> mRNA that encodes α-synuclein protein (IC₅₀=1.5 μM). Synucleozid selectively targets the α-synuclein mRNA 5' UTR at the designed IRE site, decreases the amount of SNCA mRNA loaded into polysomes and thereby inhibits SNCA translation. Synucleozid has the potential for the investigation of Parkinson's disease^[1].</p>												
IC₅₀ & Target	IC ₅₀ : 1.5 μ M (SNCA IRE RNA) ^[1]												
In Vitro	<p>Synucleozid (0.25-1 μM; 24 hours) abrogates cytotoxicity induced by α-synuclein preformed fibrils, which act as seeds and recruit endogenous α-synuclein to aggregate^[1].</p> <p>Synucleozid (0-1 μM; 24 hours) binds to the A bulge near the base of the IRE hairpin, reduced levels of α-synuclein in a dose-dependent manner with an IC₅₀ of 500 nM, and inhibits α-synuclein protein expression in SH-SY5Y neuroblastoma cells^[1].</p> <p>Synucleozid (100 nM-100 μM; 24 hours) binds to 2-AP-labeled and native IRE RNA with similar affinities. It decreases 2-AP emission with an EC₅₀ value of 2.7 μM, recovery of 2-AP emissions is observed as a function of unlabeled SNCA IRE RNA (RNA-0) concentration, affording a competitive K_d of 1.5 μM^[1].</p> <p>Synucleozid (0.25-1 μM; 24 hours) decreases α-synuclein and other proteins that have IREs in their mRNA's UTR including APP, PrP, Ferritin and TfR as a dose-dependent manner. All panels is completed in SH-SY5Y cells, except for PrP protein which is assessed in Neuro-2A cells^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>SH-SY5Y neuroblastoma cells</td> </tr> <tr> <td>Concentration:</td> <td>0.25 μM, 0.5 μM, 1 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours</td> </tr> <tr> <td>Result:</td> <td>Decreased LDH release as a dose-dependent manner.</td> </tr> </table> <p>Western Blot Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>SH-SY5Y neuroblastoma cells</td> </tr> <tr> <td>Concentration:</td> <td>0.25 μM; 0.5 μM; 1 μM;</td> </tr> </table>	Cell Line:	SH-SY5Y neuroblastoma cells	Concentration:	0.25 μ M, 0.5 μ M, 1 μ M	Incubation Time:	24 hours	Result:	Decreased LDH release as a dose-dependent manner.	Cell Line:	SH-SY5Y neuroblastoma cells	Concentration:	0.25 μ M; 0.5 μ M; 1 μ M;
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Concentration:	0.25 μ M; 0.5 μ M; 1 μ M;												

Incubation Time:	24 hours
Result:	Decreased α -synuclein expression as a concentration-dependent manner.

REFERENCES

[1]. Zhang P, et al. Translation of the intrinsically disordered protein α -synuclein is inhibited by a small molecule targeting its structured mRNA. Proc Natl Acad Sci U S A. 2020 Jan 21;117(3):1457-1467.

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

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