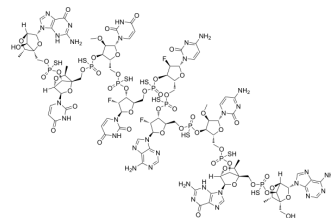


RGLS4326

Cat. No.:	HY-139290
CAS No.:	2229964-07-0
Molecular Formula:	C ₉₅ H ₁₁₅ F ₃ N ₃₂ O ₅₁ P ₈ S ₈
Molecular Weight:	3082.42
Sequence:	5'-AsGsCmAfCfUfUmUsGs-3'
Target:	MicroRNA
Pathway:	Epigenetics
Storage:	-20°C, stored under nitrogen
	* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 100 mg/mL (32.44 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		1 mg	5 mg	10 mg
	Concentration	Mass			
	1 mM		0.3244 mL	1.6221 mL	3.2442 mL
	5 mM		0.0649 mL	0.3244 mL	0.6488 mL
	10 mM		0.0324 mL	0.1622 mL	0.3244 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

RGLS4326 (RG4326) is a first-in-class, short oligonucleotide inhibitor of microRNA-17 (miR-17). RGLS4326 can be used for the research of autosomal dominant polycystic kidney disease (ADPKD). RGLS4326 inhibits miR-17 function in HeLa cells with an EC₅₀ value of 28.3 nM^[1].

IC₅₀ & Target

MicroRNA^[1]

In Vitro

RGLS4326, a single-stranded, chemically modified, short oligonucleotide of 9-nt with full complementarity to the miR-17 seed sequence. RGLS4326 inhibits the pathologic functions of the miR-17 family of miRNAs in ADPKD^[1]. RGLS4326 treatment inhibits miR-17 function in kidney collecting duct cells in culture as measured by miR-17 PD-Sig, with an EC₅₀ value of 77.2 ± 20.2 nM^[1]. RGLS4326 suppresses the growth of primary human autosomal dominant polycystic kidney disease (ADPKD) cysts^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only. Cell Proliferation Assay^[1]

	<table border="1"> <tr> <td>Cell Line:</td> <td>Primary cysts in 3D Matrigel</td> </tr> <tr> <td>Concentration:</td> <td>5, 20, 100, and 300 nM</td> </tr> <tr> <td>Incubation Time:</td> <td>9 days</td> </tr> <tr> <td>Result:</td> <td>Decreased in cyst epithelial cell proliferation.</td> </tr> </table>	Cell Line:	Primary cysts in 3D Matrigel	Concentration:	5, 20, 100, and 300 nM	Incubation Time:	9 days	Result:	Decreased in cyst epithelial cell proliferation.
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Concentration:	5, 20, 100, and 300 nM								
Incubation Time:	9 days								
Result:	Decreased in cyst epithelial cell proliferation.								
In Vivo	<p>RGLS4326 preferentially distributes to kidney tubules and cysts. RGLS4326 (a single 30 mg/kg SC injection) is rapidly absorbed into plasma, showing T_{max} of ≤ 1 h, C_{max} of 8.5 $\mu\text{g/mL}$, and half-life of < 4 h in wild-type mice^[1]. In vivo administration of RGLS4326 also upregulates the expression of the direct miR-17 target genes Pkd1 and Pkd2^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Pkd2-KO mice^[1]</td> </tr> <tr> <td>Dosage:</td> <td>20 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>SC injection</td> </tr> <tr> <td>Result:</td> <td>Compared to non-cystic control kidneys, polycystic kidneys of PBS-treated Pkd2-KO mice exhibit an age-dependent progressive decline in miR-17 PD-Sig, indicative of increasing miR-17 activity with disease progression. Administration of RGLS4326 reversed this decline in miR-17 PD-Sig, indicating a sustained functional inhibition of miR-17.</td> </tr> </table>	Animal Model:	Pkd2-KO mice ^[1]	Dosage:	20 mg/kg	Administration:	SC injection	Result:	Compared to non-cystic control kidneys, polycystic kidneys of PBS-treated Pkd2-KO mice exhibit an age-dependent progressive decline in miR-17 PD-Sig, indicative of increasing miR-17 activity with disease progression. Administration of RGLS4326 reversed this decline in miR-17 PD-Sig, indicating a sustained functional inhibition of miR-17.
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REFERENCES

[1]. Edmund C Lee, et al. Discovery and preclinical evaluation of anti-miR-17 oligonucleotide RGLS4326 for the treatment of polycystic kidney disease. Nat Commun. 2019 Sep 12;10(1):4148.

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

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