



## Report of Analysis

<b>Product Name</b>	Firefly Luciferase self-amplifying RNA
<b>Catalog No.</b>	EB-RNA016
<b>Size</b>	100 ug, 0.5 mg, 1 mg
<b>Storage</b>	-80 °C(Avoid freeze/thaw cycles)

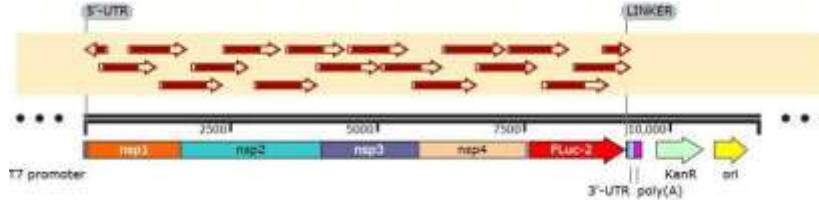
### Specifications

<b>Test Item</b>	<b>Method</b>	<b>Result</b>
Appearance	USP<790>	Clear, colorless solution
pH	USP<791>	6.5
Content	UV-Vis	1.0 mg/mL
A260/280	UV-Vis	2.2
Identity	Sanger sequencing	ORF sequence 100% matches
Integrity	Capillary electrophoresis	87.0 %
Poly(A) tailed %	RP-HPLC	87 %
Capping efficiency	LC-MS	> 99.0 %
Residual protein	Fluorescence	< 1.0 µg/mg
Residual DNA template	qPCR	0.02 ng/mg
dsRNA	ELISA	123.3 ng/mg
Endotoxin	USP<85>	< 5 EU/mL
In vitro expression	SDS-Page	Expressed protein size matches expectation
In vitro expression	Cell-based assay	Target protein expression observed In transfected 293T cells



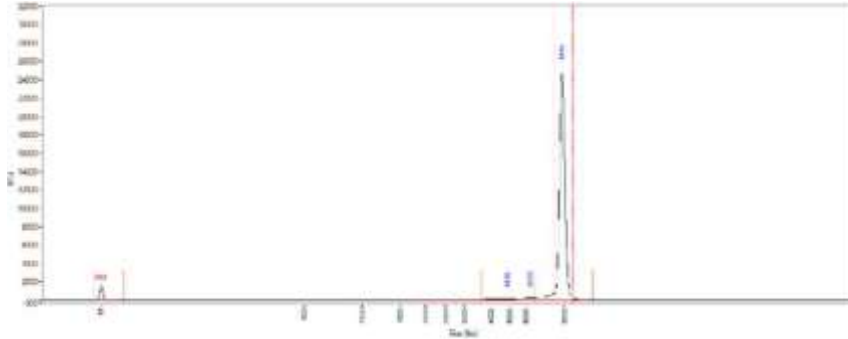
- **Identity: Sanger sequencing**

The sequence was successfully verified through Sanger sequencing, with the results confirming a 100% match with the theoretical ORF sequence.



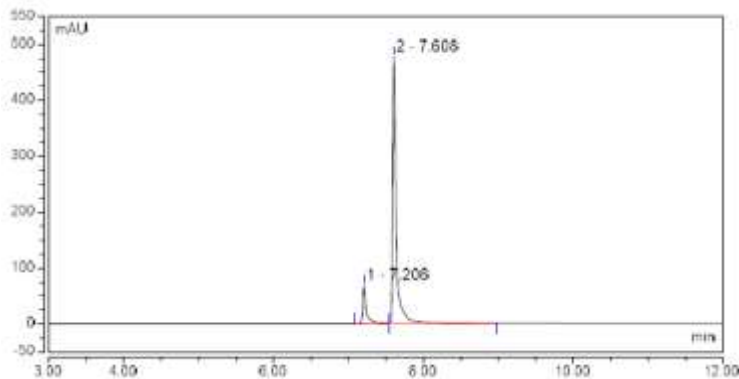
- **Integrity: Capillary electrophoresis**

Size range (nt)	Average size (nt)	Integrity (%)
8235 - 9638	8861	87.0



- **Poly(A) tailed %: RP-HPLC**

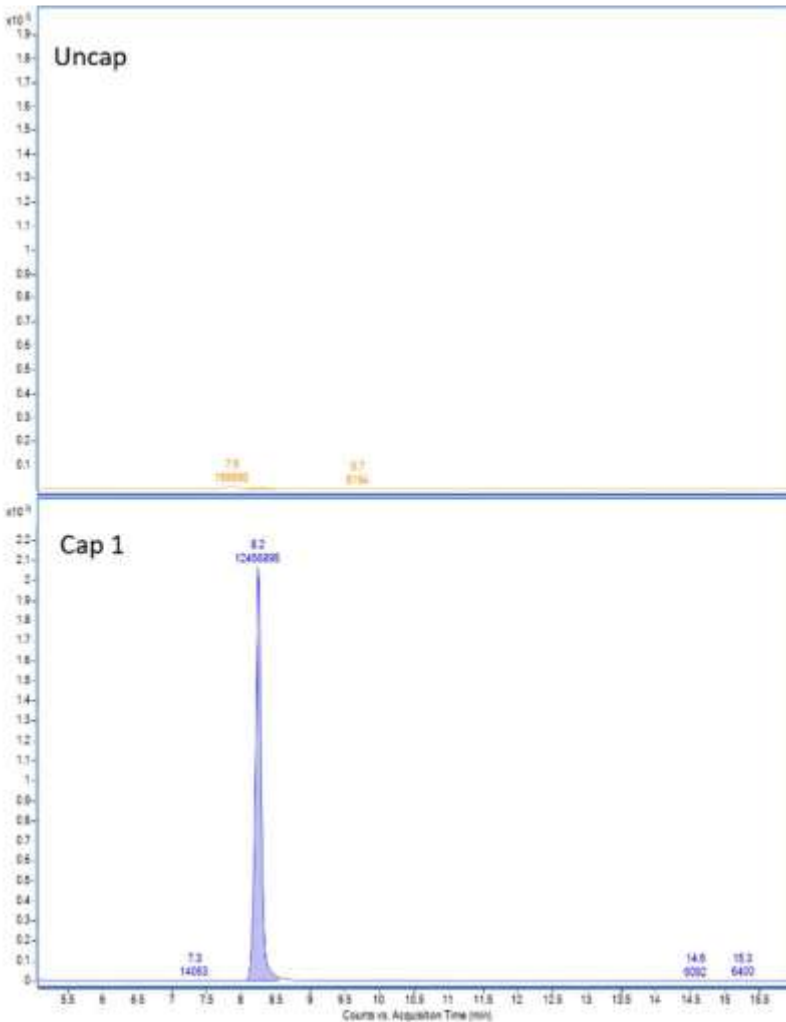
RT (min)	Area	Area (%)	Area (%)
Tailless	7.206	4.099	13.4
Tailed mRNA	7.608	26.543	86.6





- **Capping efficiency: LC-MS**

Name	RT (min)	Area	Area (%)
Uncap	N.D.	N.D.	N.D.
Cap 1	8.2	12456895	>99.0

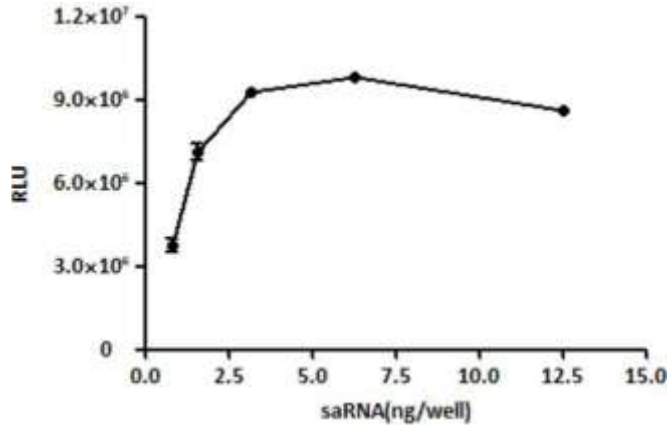


- **In vitro expression: Cell-based assay**

The saRNA samples were delivered into 293T cells using a transfection reagent at doses ranging from 0.781 to 12.5 ng per well. 48 hours post-transfection, firefly luciferase (FLuc) activity was measured by adding the D-luciferin substrate and recording luminescence



with a microplate reader. The observed luminescence confirmed that FLuc protein was successfully expressed in the transfected cells.



**Disclaimer:**

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