IVANO BIOSCIENCE

SARS-CoV-2 Pseudovirus

JN.1 Variant

Luciferase reporter

Lot #250819

Certificate of Analysis

October 03rd, 2025

Certificate of Analysis – Lot #250819
SARS-CoV-2 pseudovirus
JN.1 variant
Luciferase reporter

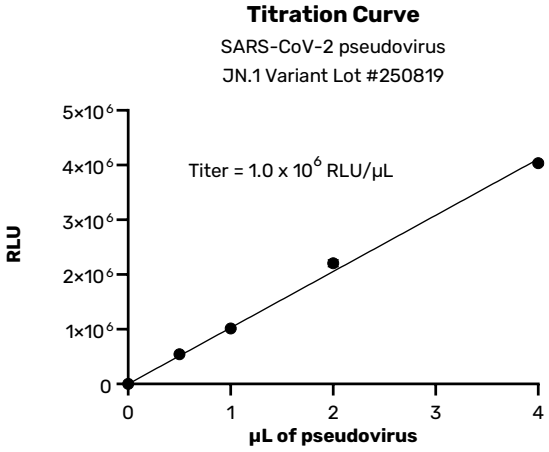
IVANO BIOSCIENCE

1. Summary

This certificate provides a functional validation of the SARS-CoV-2 pseudovirus, JN.1 variant, lot #250819. The titer is 1.0 × 10^6 RLU/µL. A fold-to-background ratio is obtained with 0.5 µL per well (96-well plate). One milliliter is sufficient to perform approximately 2,000 reactions, or 20 × 96-well plates. According to IVANO Bioscience's protocol, available upon request.

2. Transduction efficiency assay

Target cells	HEK293 cells (ACE2⁺)
Volume of pseudovirus	0 – 0.5 - 1 – 2 – 4 µL/well (signal saturation occurs at ≥ 6 µL)
Detection signal	Luminescence (firefly luciferase)
Detection method	Microplate reader Biotek Synergy H1 (Gain: 135)



Pseudovirus (µL)	RLU 1	RLU 2	Mean	CV	Fold to Background
0	4.95E+02	4.30E+02	4.63E+02	4.60E+01	1.00E+00
0.5	5.48E+05	5.42E+05	5.45E+05	3.89E+03	1.18E+03
1	1.00E+06	1.03E+06	1.01E+06	1.94E+04	2.19E+03
2	2.16E+06	2.25E+06	2.20E+06	6.47E+04	4.76E+03
4	4.01E+06	4.06E+06	4.04E+06	2.96E+04	8.73E+03

Figure 1: Transduction efficiency curve
A volume range of pseudovirus was mixed in a final volume of 50 µL of medium, in a 96-well plate. Then, 50 µL of medium containing 10,000 cells was seeded in each well. On the day of analysis, an additional 100 µL of Bright-Glo™ Luciferase reagent was added in each well and incubated for 2 minutes. Data in relative unit luminescence (RLU) were obtained from the analysis of 150 µL of the cell lysate, using a microplate reader. Data are expressed in relative unit luminescence (RLU).

Conclusion:

The SARS-CoV-2 pseudovirus, JN.1 variant (lot #250819), is capable of transducing target cells. The titer is 1.0 × 10^6 RLU/µL. Using 0,5 microliters of pseudovirus per reaction in a 96-well plate results in a 1,000-fold increase in RLU compared to the background. Accordingly, 1 mL of lot #250819 can be used to perform approximately 2,000 reactions, or 20 × 96-well plates, according to IVANO Bioscience's protocol (available upon request). Note that signal saturation occurs at ≥ 6 µL per well of pseudovirus.

3. Additional information

Instruction of Use	We recommend determining the titer in your lab's conditions before performing any experiments. Handle under biosafety level-2.
Pseudovirus	3rd generation lentiviral vector, incompetent replication and non-toxic.
Pseudotyping	Spike glycoprotein of the JN.1 variant SARS-CoV-2.
Pseudotyping sequence	MFVFLVLLPLVSSQCVMPLFNLITTTQSYTNSFTRGVYYPDKVFRSSVLHLTQDLFLPFF SNVTWFHAISGTNGTKRFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDSKTQSLLIVNN ATNVFIKVCEFQFCNDPFLDVYHKNNKSWMESESGVYSSANNCTFEYVSQPFLMDLEGK QGNFKNLREFVFKNIDGYFKIYSKHTPIIGRDFPQGFSALEPLVDLPIGINITRFQTLLALNR SYLTPGDSSSGWTAGAADYYVGYLQPRTFLLKYNENGTITDAVDCALDPLSETKCTLKS FTVEKGIYQTSNFRVQPTESIVRFPNVTNLCPFHEVFNATRFASVYAWNRTRISNCVADY SVLYNFAPFFAFKCYGVSPTKLNDLCFTNVYADSFVIKGNEVSQIAPGQTGNIADYNYKL PDDFTGCVIAWNSNKLDSKHSGNYDYWYRSFRKSKLKPFERDISTEIYQAGNKPCKGKGP NCYFPLQSYGFRPTYGVGHQPYRVVVLSFELLHAPATVCGPKKSTNLVKNKCVNFNFNG LTGTGVLTKSNKKFLPFQQFGRDIVDTTDAVRDPQTLEILDITPCSFGGVSVITPGTNTSN QVAVLYQGVNCTEVSVAIHADQLTPTWRVYSTGSNVFQTRAGCLIGAEYVNNSYECDIPI GAGICASYQTQTKSRSRASSVASQSIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEILP VSMTKTSVDCTMYICGDSTECSNLLLQYGSFCTQLKRALTGIAVEQDKNTQEVFAQVKQI YKTPPIKYFGGFNFSQILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARDLI CAQKFNGLTVLPPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIG VTQNVLYENQKLIANQFNSAIGKIQDSLFSTASALGKLQDVVNHNAQALNTLVKQLSSKF GAISSVLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSEC VLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHDGKAHFPR EGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGNCDVVIGIVNNTVYDPLQLELDSFKEEL DKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIKWP WYIWLGFIAGLIAIVMVTIMLCCMTSCCSCLKGCCSCGSCC
Reporter protein	Firefly luciferase.
Storage	- 80 °C, avoid freeze/thaw cycles.
For more information	mathias.mangion@ivanobioscience.com Message object should contain: " JN.1 variant SARS-CoV-2 pseudovirus - #250819".
Intended use	For Research Use Only. Not for Use in Diagnostic Procedures. Not Meant for Resale.