IVANO BIOSCIENCE

Ebola Pseudovirus

Zaire Variant

Luciferase reporter

Lot #251215-EBZ

Certificate of Analysis

February 11, 2026

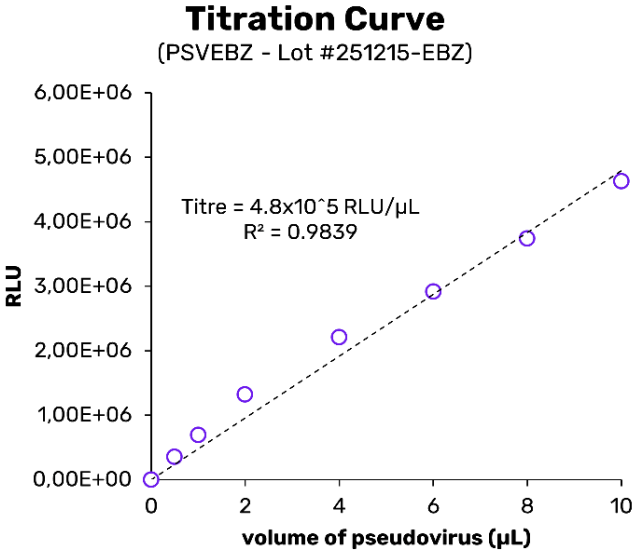
Version 1

1. Summary

This certificate provides a functional validation of the Ebola pseudovirus, Zaire variant, lot #251215-EBZ. The titer is 4.8 x 10^5 RLU/µL. A 1,000-fold-to-background ratio is obtained with 1 µL per well (96-well plate). Hence, a volume of 1 mL is sufficient to perform approximately 1,000 reactions, or 10 × 96-well plates. According to IVANO Bioscience's protocol, available upon request.

2. Transduction efficiency assay

Target cells	HEK293T cells
Volume of pseudovirus	0 – 0.5 – 1 – 2 – 4 – 6 – 8 – 10 µL/well
Detection signal	Luminescence (firefly luciferase)
Detection method	Microplate reader Biotek Synergy H1 (Gain: 135)



Volume of pseudovirus (µL)	RLU 1	RLU 2	Mean	CV	Fold to Background
0	3,6E+02	3,0E+02	3,3E+02	4,3E+01	1,0E+00
0,5	3,6E+05	3,5E+05	3,6E+05	5,9E+03	1,1E+03
1	6,6E+05	7,3E+05	6,9E+05	5,3E+04	2,1E+03
2	1,3E+06	1,3E+06	1,3E+06	4,3E+03	4,0E+03
4	2,2E+06	2,2E+06	2,2E+06	2,5E+04	6,6E+03
6	2,9E+06	3,0E+06	2,9E+06	8,7E+04	8,8E+03
8	3,8E+06	3,7E+06	3,7E+06	5,5E+04	1,1E+04
10	4,6E+06	4,6E+06	4,6E+06	1,0E+04	1,4E+04

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 Ebola pseudovirus, Zaire variant (lot #251215-EBZ), is capable of transducing target cells. The titer is 4.8 x 10^5 RLU/µL. Using 1 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 #251215-EBZ can be used to perform approximately 1,000 reactions, or 10 × 96-well plates, according to IVANO Bioscience's protocol (available upon request)

3. Neutralization assay

Target cells	HEK293T cells
Volume of pseudovirus	1 µL/well
Neutralizing antibody (Nabs)	Anti-Ebola surface glycoprotein [KZ52] , Ab00690-10.0
Detection signal	Luminescence (firefly luciferase)
Detection method	Microplate reader Biotek Synergy H1 (Gain: 135)

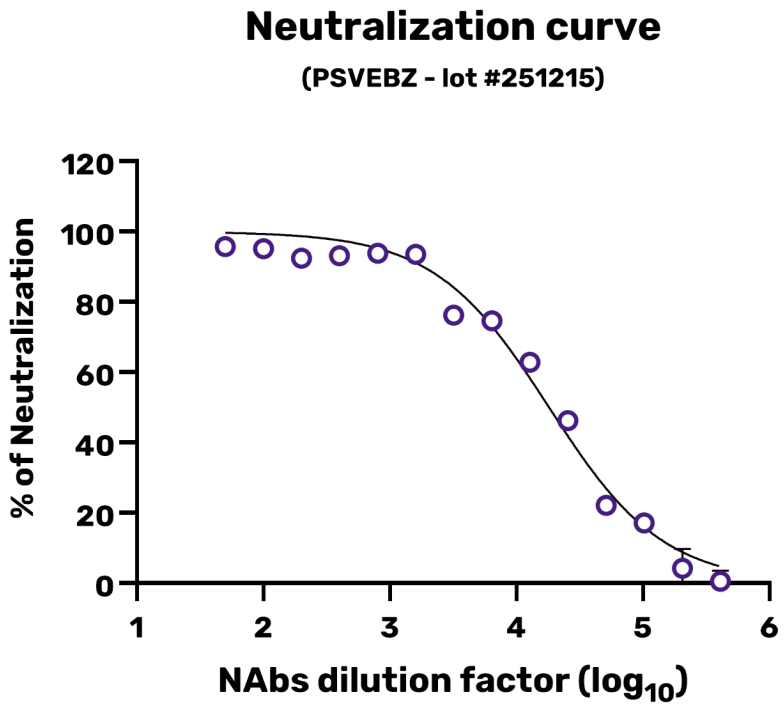


Figure 2: Neutralization curve
A monoclonal neutralizing antibody (Ab00690-10.0), at a starting dilution of 1/50, was serial diluted in a final volume of 50 µL of complete medium and incubated for 1 hour at 37 °C, with 1 µL of pseudovirus, in a 96-well plate. Then, an additional 50 µL containing 10,000 cells was seeded in each well and incubated for 72 hours. Finally, an additional 100 µL of Bright-Glo™ Luciferase buffer 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 with a microplate reader. Raw data were analyzed using a log(inhibitor) vs normalized-response (variable slope) non-linear regression model in Prism v10 (GraphPad). Percentages of neutralization were normalized considering only cells into wells as 100% neutralization and cells transduced by pseudoviruses without any NAbs as 0% neutralization. Data are representative of duplicates.).

Conclusion

The Ebola pseudovirus, Zaire variant (lot #251215-EBZ) can be efficiently neutralized by neutralizing antibodies.

4. Additional information

Intruction 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	Glycoprotein of the Ebola pseudovirus, Zaire variant Genbank: AIW47454.1
Pseudotyping sequence	MGVTGILQLPRDRFKRTSFFLWVIILFQRTFSIPLGVIHNSTLQVSDVDKLVCRDK LSSTNQLRSVGLNLEGNGVATDVPSVTKRWGFRSGVPPKVVNYEAGEWAENC YNLEIKKPDGSECLPAAPDGIRGFPRCRYVHKVSGTGPCAGDFAFHKEGAFFLY DRLASTVIYRGTTFAEGVVAFLILPQAKKDFFSSHPLRELVNATEDPSSGYYSTTI RYQATGFGTNETEYLFEVDNSTYVQLESRFTPQFLLQLNETIYASGKRSNTTGK LIWKVNPEIDTTIGEWAFRETKKNLTRKIRSEELSFTAVSNGPKNISGQSPARTSS DPETNTTNEDHKIMASENSSAMVQVHSQGRKAAVSHLTTLATISTSPQPPTTKT GPDNSTHNTPVYKLDISEATQVGQHHRRADNDSTASDTPPATTAAGPLKAENT NTSKSADSLDLATTTSPQNYSETAGNNNTHHQDTGEESASSGKLGLITNTIAGV AGLITGGRRTRREVIVNAQPKCNPNLHYWTTQDEGAAIGLAWIPYFGPAAEGIYI EGLMHNQDGLICGLRQLANETTQALQLFLRATTELRTFSILNRKAIDFLLQRWGG TCHILGPDCCIEPHDWTKNITDKIDQIIHDFVDKTLPDQGDNDNWWTGWRQWIP AGIGVTGVIIAVIALFCICKFVF
Glycosylation origin	Human
Reporter Protein	Firefly luciferase
Storage	- 80 °C, avoid freeze/thaw cycles
For more information	mathias.mangion@ivanobioscience.com Message object should contain: "PSVEBZ – lot #251215-EBZ "
Intended use	For Research Use Only Not for Use in Diagnostic Procedures, not Meant for Resale