

Certificate of Analysis for NR-48680

Human Parainfluenza Virus 1, HPIV1/FRA/29221106/2009

Catalog No. NR-48680

Product Description: Cell lysate and supernatant from *Macaca mulatta* kidney epithelial cells¹ infected with human parainfluenza virus 1, HPIV1/FRA/29221106/2009

Lot²: 62819340 Manufacturing Date: 09MAR2015

TEST	SPECIFICATIONS	RESULTS
Identification by Infectivity in LLC-MK2 Cells ¹	Cell rounding, detachment, vesicle formation, and granularity	Cell rounding, detachment, vesicle formation, and granularity
Sequencing of Species-Specific Region (859 nucleotides)	Consistent with HPIV1/FRA/29221106/2009	100% identity with HPIV1/FRA/29221106/2009 (GenBank: KF687313)
Titer by TCID ₅₀ Assay ^{3,4} in LLC-MK2 Cells ¹	Report results	$8.9 \times 10^6 \text{ TCID}_{50} \text{ per mL}$
Sterility (21-day incubation) Harpo's HTYE broth, 5 37°C and 26°C, aerobic Trypticase soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°C, aerobic Sheep blood agar, 37°C, aerobic Sheep blood agar, 37°C, anaerobic Thioglycollate broth, 37°C, anaerobic DMEM with 10% FBS, 37°C and 5% CO ₂	No growth	No growth
Mycoplasma Contamination Agar and broth culture (14-day incubation at 37°C) DNA Detection by PCR of Test Article nucleic acid	None detected None detected	None detected None detected

¹LLC-MK2 Derivative cells (ATCC[®] CCL-7.1™)

Date: 04 JUN 2015 **Sig**

BEI Resources Authentication

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

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²Grown in Dulbecco's Modified Eagle's Medium (ATCC® 30-2002™) supplemented with 4 μg per mL trypsin (Gibco® 27250-018) for 6 days at 37°C and 5% CO₂

³The Tissue Culture Infectious Dose 50% (TCID₅₀) endpoint is the 50% infectious endpoint in cell culture. The TCID₅₀ is the dilution of virus that under the conditions of the assay can be expected to infect 50% of the culture vessels inoculated, just as a Lethal Dose 50% (LD₅₀) is expected to kill half of the animals exposed. A reciprocal of the dilution required to yield the TCID₅₀ provides a measure of the titer (or infectivity) of a virus preparation.

⁴6 days at 37°C and 5% CO₂

⁵Atlas, Ronald M. Handbook of Microbiological Media. 3rd ed. Ed. Lawrence C. Parks. Boca Raton: CRC Press, 2004, p. 798.