

Plasmid pUC57-Simple Containing cDNA from Enterovirus D68, USA/MN/1989-23220, Infectious Clone EV-D68-R23220

Catalog No. NR-52376

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Contributor:

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Manufacturer:

BEI Resources

Product Description:

The enterovirus species D type 68 (EV-D68), USA/MN/1989-23220 (GenBank: [MN240496](#)) genome was cloned into the *Escherichia coli* (*E. coli*) cloning vector pUC57-simple to generate plasmid EV-D68-R23220.^{1,2} EV-D68-R23220 contains a T7 bacteriophage promoter immediately upstream of the 5' end of the viral genome. Transfection of cells with RNA transcribed *in vitro* from the linearized plasmid results in production of infectious virus particles.¹ EV-D68-R23220 also contains the beta-lactamase gene, *bla*, to provide transformant selection through ampicillin resistance in *E. coli*. The resulting size of the plasmid is approximately 10,130 base pairs.¹ The complete plasmid sequence and map are provided on the BEI Resources webpage. The plasmid was produced in *E. coli* and extracted.

NR-52376 has been qualified for use in bacterial transformations.

EV-D68, USA/MN/1989-23220 was isolated in 1989 from a human in Minnesota, USA. EV-D68 is an enterovirus that is a potential human pathogen. Rapidly accumulating clinical, immunological and epidemiological evidence points to EV-D68 as a major causative agent of acute flaccid myelitis (AFM), however, information regarding causation between EV-D68 and AFM is still limited.^{3,4}

Material Provided:

Each vial contains plasmid DNA in TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8.0). The DNA concentration and volume provided are shown on the Certificate of Analysis. The vial should be centrifuged prior to opening. Note: The contents of the vial should be used to replicate the plasmid in *E. coli* prior to expression studies.

Packaging/Storage:

NR-52376 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen on dry ice and should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be minimized.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Plasmid pUC57-Simple Containing cDNA from Enterovirus D68, USA/MN/1989-23220, Infectious Clone EV-D68-R23220, NR-52376."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

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References:

1. Anstadt, J., Personal Communication.
2. Guo, X., et al. "Efficient RNA/Cas9-mediated Genome Editing in *Xenopus Tropicalis*." Development 141 (2014): 707-714. PubMed: 24401372.

3. Hixon, A. M., et al. "Understanding Enterovirus D68-Induced Neurologic Disease: A Basic Science Review." Viruses 11 (2019): doi: 10.3390/v11090821. PubMed: 31487952.
4. Sun, J., X. Y. Hu and X. F. Yu. "Current Understanding of Human Enterovirus D68." Viruses 11 (2019): doi: 10.3390/v11060490. PubMed: 31146373.

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