Product Information Sheet for NR-59930

Oropouche Virus, 240023

Catalog No. NR-59930

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For research use only. Not for use in humans.

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Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Peribunyaviridae*, *Orthobunyavirus oropoucheense*
Species: Oropouche Virus
Strain/Isolate: 240023
Original Source: Oropouche virus (OROV), 240023 was isolated in Florida on July 13, 2024, from the serum of a patient with a history of travel to Cuba.[1,2]
Comments: The large (L), medium (M), and small (S) segments of OROV, 240023 have been sequenced (GenBank: PQ417948.1, PQ417949.1 and PQ417950.1, respectively).

OROV is an arbovirus with a tripartite RNA genome, which consists of three single-stranded RNA segments of negative polarity: L (encodes RNA-dependent RNA polymerase), M (encodes envelope glycoproteins Gn and Gc) and S (encodes nucleoprotein N). OROV was first isolated in 1955 from the blood of a forestry worker in Melajo Reserve, Trinidad and Tobago, and is named for the nearby near the Oropouche river.[2,3]

OROV is a zoonotic disease causing periodic outbreaks in Central America, the Caribbean and throughout South America outside of its endemic Amazon region.[2,4] In 2024, an increase in OROV cases originating in travelers from Brazil and Cuba was documented in the United States, as well as in Europe.[2]

Transmission to humans occurs primarily through *Culicoides paraensis* (biting midge) and secondary vectors *Culex quinquefasciatus* or *Aedes aegypti*.[2,4] Symptoms of OROV fever, also referred to as sloth fever, originating from its isolation in Brazil in 1960 from a pale-throated sloth, are similar to those of dengue and chikungunya, which often leads to misdiagnosis of the source of the infection.[4,5] A frequent disease pattern in OROV fever is a recurrence of symptoms within days to weeks after resolution of the initial illness.[2] A few cases that have occurred in Brazil since 2023 are characterized by more severe disease and fetal sequelae.[4]

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from *Homo sapiens* lung carcinoma epithelial cells infected with OROV, 240023.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:

NR-59930 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:

Host: *Homo sapiens* lung carcinoma epithelial cells (A549; ATCC® CCL-185™)
Growth Medium: F-12K Medium (Kaighn's Modification of Ham's Medium) supplemented with 2% fetal bovine serum, or equivalent
Infection: Cells should be 60% to 70% confluent
Incubation: 6 to 10 days at 37°C and 5% CO_2
Cytopathic Effect: Cell rounding and sloughing

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Oropouche Virus, 240023, NR-59930."

Biosafety Level: 2

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 (BMBL). Current Edition. Washington, DC: U.S. Government Printing Office.

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References:

1. Russell, B.J., Personal Communication.
2. Branda, F., M. Ciccozzi and F. Scarpa. "Oropouche Virus Presenting in Italy after Travel to Cuba." New Microbes New Infect. 60-61 (2024): 101450. PubMed: 39100738.
3. Anderson, C. R., et al. "Oropouche Virus: A New Human Disease Agent from Trinidad, West Indies." Am. J. Trop. Med. Hyg. 10 (1961): 574-578. PubMed: 13683183.
4. Morrison, A., et al. "Oropouche Virus Disease among U.S. Travelers – United States, 2024." MMWR Morb. Mortal. Wkly Rep. 73 (2024): 769-773. PubMed: 39236058.
5. Nunes, M. R. T., et al. "Oropouche Virus Isolation, Southeast Brazil." Emerg. Infect. Dis. 11 (2005): 1610-1613. PubMed: 16318707.

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