Product Information Sheet for NR-51

Vaccinia Virus, Lister (Elstree)

Catalog No. NR-51

(Derived from ATCC® VR-1549™)

For research use only. Not for human use.

Contributor:

ATCC®

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Poxviridae, Orthopoxvirus*
Species: Vaccinia virus (VACV)
Strain/Isolate: Lister (Elstree)
Original Source: Skin of sheep
Comments: VACV, strain Lister (Elstree) was deposited to ATCC® by Dr. James H. Nakano at the Centers for Disease Control in 1978. The Lister (Elstree) strain was widely used during the World Health Organization (WHO) program on the eradication of smallpox.[2,3] Although very effective, it induced rare but severe adverse effects.[4] This was one of the reasons for the discontinuation of vaccination after eradication. The complete genomic sequence of VACV, Lister has been determined (GenBank: AY678276).[1]

Vaccinia viruses are DNA viruses, belonging to the *Poxviridae* family that are closely related to smallpox-causing variola viruses.[5] Several strains of VACV were distributed as live vaccine during the global smallpox eradication program by WHO. Despite being an extremely well-studied virus, the origin of VACV is poorly understood.[5] VACV was first described in 1930s when it was demonstrated that the smallpox vaccination strain prevalent at that time was distinct from the earlier used cowpox virus.[6] During this time, it was assumed that VACV was laboratory attenuated and would not establish itself in nature. However, since then, several VACV strains have been described in zoonotic viral infections throughout the world.[6]

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney epithelial cells infected with VACV, Lister (Elstree).

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

Packaging/Storage:

NR-51 was packaged aseptically in screw-capped plastic 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: *Cercopithecus aethiops* kidney epithelial cells (Vero; ATCC® CCL-81™)
Growth Medium: Eagle's Minimum Essential Medium containing Earle's Balanced Salt Solution, non-essential amino acids, 2 mM L-glutamine, 1 mM sodium pyruvate and 1.5 g/L of sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent
Infection: Cells should be 80% to 95% confluent
Incubation: 3 to 8 days at 37°C and 5% CO_2
Cytopathic Effect: Cell enlargement and syncytia formation with eventual rounding and detachment

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Vaccinia Virus, Lister (Elstree), NR-51."

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm. This publication recommends that all persons working in or entering laboratory or animal care areas where activities with vaccinia virus are being conducted should have documented evidence of satisfactory vaccination within the preceding ten years.

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References:

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6. Oliveira, J. S., et al. "Vaccinia Virus Natural Infections in Brazil: The Good, the Bad, and the Ugly." Viruses 9 (2017): E340. PubMed: 29140260.
7. Takahashi-Nishimaki, F., et al. "Genetic Analysis of Vaccinia Virus Lister Strain and Its Attenuated Mutant LC16m8: Production of Intermediate Variants by Homologous Recombination." J. Gen. Virol. 68 (1987): 2705-2710. PubMed: 3668510.

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