Langat Virus, TP21

Catalog No. NR-51658

For research use only. Not for human use.

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Manufacturer:
BEI Resources

Product Description:
Virus Classification: *Flaviviridae*, *Flavivirus*
Species: Langat virus
Strain/Isolate: TP21
Original Source: Langat virus (LGTV), TP21 was isolated from an *Ixodes granulatus* tick, Ulu Langat Forest Reserve, Malaysia on April 17, 1956.[1]
Comments: The complete genome of LGTV, TP21 has been sequenced (GenBank: EU790644).

LGTV are non-segmented positive-sense RNA viruses belonging to tick-borne encephalitis virus (TBEV) serocomplex of the genus *Flavivirus* in the family *Flaviviridae*.[2] LGTV, TP21 was initially identified as Yelantsev virus in the 1960s and evaluated as a live attenuated vaccine candidate.[3,4] LGTV are less pathogenic for humans than many other viruses in the TBEV group, such as Central European and Far Eastern tick-borne encephalitis, Kyasanur forest disease, Louping ill, Negishi, Powassan and Omsk hemorrhagic fever viruses.[2,3,4] Because of this reduced virulence in humans, LGTV, TP21 has been widely investigated as a human vaccine candidate.[4]

Material Provided:
Each vial contains approximately 1 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney cells infected with LGTV, TP21.

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

Packaging/Storage:
NR-51658 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 cells (Vero E6; ATCC® CRL-1586™)
Growth Medium: Dulbecco's Minimum Essential Medium containing 4 mM L-glutamine, 1 mM sodium pyruvate, 4.5 g/L glucose and 1.5 g/L of sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent
Infection: Cells should be 80% to 90% confluent
Incubation: 6 to 12 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: Langat Virus, TP21, NR-51658."

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.

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References:
1. Russell, B. J., Personal Communication.
2. Iacono-Connors, et al. "Characterization of Langat Virus Antigenic Determinants Defined by Monoclonal Antibodies to E, NS1 and preM, and Identification of a

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Protective, Non-Neutralizing preM-Specific Monoclonal Antibody." Virus Res. 43 (1996): 125-136. PubMed: 8864202.

3. Pletnev, A. G. and R. Men. "Attenuation of the Langat Tick-Borne Flavivirus by Chimerization with Mosquito-Borne Flavivirus Dengue Type 4." Proc. Natl. Acad. Sci. USA 95 (1998): 1746-1751. PubMed: 9465088.
4. Rumyantsev, A. A., B. R. Murphy and A. G. Pletnev. "A Tick-Borne Langat Virus Mutant that is Temperature Sensitive and Host Range Restricted in Neuroblastoma Cells and Lacks Neuroinvasiveness for Immunodeficient Mice." J. Virol. 80 (2006): 1427-1439. PubMed: 16415020.

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