

Junin Virus, Candid #1

Catalog No. NR-469

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Arenaviridae*, *Mammarenavirus*

Species: Junin Virus (also referred to as Argentinian mammarenavirus)

Strain/Isolate: Candid #1

Original Source: Junin virus (JUNV), Candid #1 is a vaccine strain that was developed in the late 1980s from JUNV, XJ, which was isolated from the first human infections with JUNV, the causative agent of Argentine Hemorrhagic Fever (AHF).¹ The heavily attenuated vaccine strain, Candid #1, was developed through collaboration by United States Army Medical Research Institute of Infectious Diseases (USAMRIID), the Argentinian government and the US National Institutes of Health (NIH) by attenuation through serial passage in guinea pigs, mice and FRhK cells.^{1,2,3}

Comments: The complete genomes of JUNV, Candid #1 segments L and S have been sequenced (GenBank: [AY819707](#) and [FJ969442](#)). In order to remove contaminating mycoplasma, the first three viral passages at BEI Resources were performed with Plasmocin™ (InvivoGen), followed by three passages without Plasmocin™.

Arenaviruses are enveloped negative-sense, single stranded RNA viruses.^{1,3} JUNV belongs to clade B of the New World group of mammarenaviruses.³ New World arenaviruses (NWA) are known to be carried in rodents, though recent studies indicate other species may also carry NWA.⁴ Because JUNV is the causative agent of AHF, it was renamed Argentinian mammarenavirus in 2018.⁵

The heavily attenuated strain of JUNV, Candid #1 was approved for use as a vaccine in Argentina in 1992.¹ The National Institute of Human Viral Disease (INEVH) in Argentina is now responsible for production of the vaccine for local use.⁴ The vaccine is not approved for use in the US.

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney cells infected with JUNV, Candid #1.

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

Packaging/Storage:

NR-469 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® CCL-1586™)

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 60% to 80% confluent

Incubation: 7 to 14 days at 37°C and 5% CO₂

Cytopathic Effect: Cell rounding and detachment

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Junin Virus, Candid #1, NR-469."

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/bmb15/index.htm.

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References:

1. York, J. and J. H. Nunberg. "Epistatic Interactions within the Junín Virus Envelope Glycoprotein Complex Provide an Evolutionary Barrier to Reversion in the Live-Attenuated Candid #1 Vaccine." *J. Virol.* 92 (2018): e01682-17. PubMed: 29070682.
2. Madu, I. G., et al. "A Potent Lassa Virus Antiviral Targets an Arenavirus Virulence Determinant." *PLoS Pathog.* 14 (2018): e1007439. PubMed: 30576397.
3. Hallam, S. J., et al. "Review of Mammarenavirus Biology and Replication." *Front. Microbiol.* 9 (2018): 1751. PubMed: 30123198.
4. Stephan, B. I., M. E. Lozano and S. E. Goñi. "Watching Every Step of the Way: Junín Virus Attenuation Markers in the Vaccine Lineage." *Curr. Genomics* 14 (2013): 415-424. PubMed: 24396274.
5. [ICTV Taxonomy-History](#)

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