Monoclonal Anti-Influenza A Virus Nucleoprotein (NP), A/California/04/2009 (H1N1)pdm09, Clone 2F4 (produced *in vitro*)

Catalog No. NR-19868

This reagent is the property of the U.S. Government.

For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Antibody Class: IgG1κ

Mouse monoclonal antibody prepared against the nucleoprotein (NP) of the A/California/04/2009 (H1N1)pdm09 strain of influenza A virus was purified from clone 2F4 hybridoma supernatant by protein G affinity chromatography. The B cell hybridoma was generated by the fusion of Sp2/0 mouse myeloma cells with splenocytes from BALB/c mice immunized by intraperitoneal injection with influenza A/California/04/2009 (H1N1)pdm09 virus.[1]

All viruses with negative-sense RNA genomes encode a single-strand RNA-binding NP. The primary function of NP is to encapsidate the virus genome for the purposes of RNA transcription, replication and packaging.[2] NP serves as the structural protein in ribonucleoprotein particles and has been proposed to contain at least two different nuclear localization signals (NLS): an unconventional NLS, necessary for efficient synthesis of viral mRNA, and a bipartite NLS, which is essential for viral replication, likely due to its role in vRNA transcription.[3,4]

Material Provided:

Each vial of NR-19868 contains approximately 100 µL of purified monoclonal antibody in PBS. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-19868 was packaged aseptically in screw-capped plastic vials and is provided frozen on dry ice. The product should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-19868 reacts with both (H1N1)pdm09 and classical swine influenza viruses in indirect immunofluorescence assays. The antibody is also reported to be reactive against the NP of certain influenza A viruses in western blots and immunoprecipitation assays.[1] Note that the cross-reactivity of NR-19868 with other influenza virus types or subtypes has not been studied in detail.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Monoclonal Anti-Influenza A Virus Nucleoprotein (NP), A/California/04/2009 (H1N1)pdm09, Clone 2F4 (produced *in vitro*), NR-19868."

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/bmbl5/index.htm.

Disclaimers:

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References:

1. Pérez, D. R., Personal communication.
2. Portela, A. and P. Digard. "The Influenza Virus Nucleoprotein: A Multifunctional RNA-Binding Protein Pivotal to Virus Replication." J. Gen. Virol. 83 (2002): 723-734. PubMed: 11907320.
3. Ozawa, M., et al. "Contributions of Two Nuclear Localization Signals of Influenza A Virus Nucleoprotein to Viral Replication." J. Virol. 81 (2007): 30-41. PubMed: 17050598.
4. Cros, J. F., A. García-Sastre and P. Palese. "An Unconventional NLS is Critical for the Nuclear Import of the Influenza A Virus Nucleoprotein and Ribonucleoprotein." Traffic 6 (2005): 205-213. PubMed: 15702989.

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