Product Information Sheet for NR-45106

Monoclonal Anti-Murine Coronavirus Nucleocapsid (N) Protein, Clone 1.16.1 (produced *in vitro*)

Catalog No. NR-45106

For research use only. Not for human use.

Contributor:
Julian L. Leibowitz, M.D., Ph.D., Department of Microbial Pathogenesis and Immunology, Texas A&M University, College Station, Texas, USA

Manufacturer:
BEI Resources

Product Description:
Antibody Class: IgG1κ
Mouse monoclonal antibody prepared against the nucleocapsid (N) protein of murine coronavirus (formerly known as mouse hepatitis virus), strain JHM was purified from clone 1.16.1 hybridoma supernatant by protein G affinity chromatography. The B cell hybridoma was generated by the fusion of P3X63Ag8.653 mouse myeloma cells with immunized mouse splenocytes.[1]

Coronaviral N protein is a phosphoprotein with both structural and regulatory functions.[2,3] It plays a primary role in packaging the RNA genome, and is also involved in viral RNA synthesis, translation and modulation of host cell metabolism.[4,5,6,7,8] These multifunctional properties make N protein an attractive antiviral target.

Material Provided:
Each vial of NR-45106 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-45106 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-45106 is reactive with NCTC clone 1469 cells infected with recombinant murine coronavirus icA59 (BEI Resources NR-43000) in indirect immunofluorescence assays. The antibody is also reported to react with all strains of murine coronavirus examined to date, to function in immunocytochemistry, immunohistochemistry, immunoprecipitation and western blot assays, and to be non-neutralizing.[9]

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Monoclonal Anti-Murine Coronavirus Nucleocapsid (N) Protein, Clone 1.16.1 (produced *in vitro*), NR-45106."

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

Disclaimers:
You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:
This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:
1. Leibowitz, J. L., et al. "Increased Hepatotropism of Mutants of MHV, Strain JHM, Selected with Monoclonal Antibodies." Adv. Exp. Med. Biol. 218 (1987): 321-331. PubMed: 2829544.
2. Calvo, E., et al. "Phosphorylation and Subcellular Localization of Transmissible Gastroenteritis Virus Nucleocapsid Protein in Infected Cells." J. Gen. Virol. 86 (2005): 2255-2267. PubMed: 16033973.
3. White, T. C., Z. Yi and B. G. Hogue. "Identification of Mouse Hepatitis Coronavirus A59 Nucleocapsid Protein Phosphorylation Sites." Virus Res. 126 (2007): 139-148. PubMed: 17367888.

BEI Resources
www.beiresources.org
E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

4. Báracena, M., et al. "Cryo-Electron Tomography of Mouse Hepatitis Virus: Insights into the Structure of the Coronavirion." Proc. Natl. Acad. Sci. USA. 106 (2009): 582-587. PubMed: 19124777.
5. Baric, R. S., et al. "Interactions Between Coronavirus Nucleocapsid Protein and Viral RNAs: Implications for Viral Transcription." J. Virol. 62 (1988): 4280-4287. PubMed: 2845140.
6. Stohlman, S. A., et al. "Specific Interaction Between Coronavirus Leader RNA and Nucleocapsid Protein." J. Virol. 62 (1988): 4288-4295. PubMed: 2845141.
7. Nelson, G. W., S. A. Stohlman and S. M. Tahara. "High Affinity Interaction Between Nucleocapsid Protein and Leader/Intergenic Sequence of Mouse Hepatitis Virus RNA." J. Gen. Virol. 81 (2000): 181-188. PubMed: 10640556.
8. Eléouët, J. F., et al. "The Viral Nucleocapsid Protein of Transmissible Gastroenteritis Coronavirus (TGEV) is Cleaved by Caspase-6 and -7 during TGEV-Induced Apoptosis." J. Virol. 74 (2000): 3975-3983. PubMed: 10756009.
9. Leibowitz, J. L., Personal Communication.

Support Provided by NIAID

BEI Resources
www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898