

Product Information Sheet for NR-2730

Monoclonal Anti-Influenza Virus H5 Hemagglutinin (HA) Protein (VN04-2), A/Vietnam/1203/2004 (H5N1), (ascites, Mouse)

Catalog No. NR-2730

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Contributor

St. Jude Children's Research Hospital (CEIRS)

Manufacturer:

Rockland Immunochemicals Inc.

Product Description:

Antibody Class: IgG2ak

Mouse monoclonal antibody specific to a recombinant form of the H5 hemagglutinin (HA) protein (GenPept: AAT73274) of the A/Vietnam/1203/2004 (H5N1) strain of influenza virus was produced in mouse ascites.^{1,2} Ascites formation was induced by injecting cultured hybridoma cells into the peritoneal cavity of Balb/c mice that had been primed with Incomplete Freund's adjuvant.³ Antibody-rich ascites fluid was aseptically harvested 1 to 2 weeks following hybridoma cell injection. The harvested ascites fluid was pooled and then clarified using centrifugation and filtration.

HA is an antigenic glycoprotein found on the surface of the influenza A virus that is responsible for binding of the virus to receptors on a cell that is being infected.^{4,5} Following receptor binding, the influenza A virus can enter the cell via endocytosis and membrane fusion. H5 HA is associated with the pathogenicity of the deadly H5N1 avian influenza A virus because it readily undergoes proteolytic cleavage into an active form that is necessary for viral entry into cells.⁶ As a result, HA is an important target for drug and vaccine development.^{7,8}

Material Provided:

Each vial of NR-2730 contains lyophilized (1.0 mL) mouse ascites fluid. Sodium azide (0.02%) and gentamycin (0.01%) were added to NR-2730, lot 7497746.

Packaging/Storage:

NR-2730 was packaged in glass serum vials with an aluminum crimp seal. The product is provided frozen and should be stored at -20°C to -40°C immediately upon arrival.

Storage at warmer temperatures is not recommended due to a low bioburden. At colder temperatures, the rubber stopper may become brittle and compromise the seal. **NR-2730 should be reconstituted with 1.0 mL of sterile distilled water.**

Reconstituted material should be stored at -20°C to -40°C. Reconstituted material may be thawed at room temperature and should be re-frozen.

Functional Activity:

NR-2730 is specific for the H5 HA subtype of the influenza A virus as determined in standard hemagglutination inhibition (HI) assays. NR-2730 also demonstrates high reactivity within the H5 HA subtype of Asian isolates of influenza A virus, based on HI assays.

Applications: HI, ELISA, immunocytochemistry, immunoprecipitation, virus neutralization test.

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.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the BEI Resources, NIAID, NIH: Monoclonal Anti-Influenza Virus H5 Hemagglutinin (HA) Protein (VN04-2), A/Vietnam/1203/2004 (H5N1), (ascites, Mouse), NR-2730."

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References:

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2. Li, K. S., et al. "Genesis of a Highly Pathogenic and Potentially Pandemic H5N1 Influenza Virus in Eastern Asia." Nature 430 (2004): 209–213. PubMed: 15241415. GenPept: AAT73274.
3. Mueller, U. W., C. S. Hawes, and W. R. Jones. "Monoclonal Antibody Production by Hybridoma Growth in Freund's Adjuvant Primed Mice." J. Immunol. Methods 87 (1986): 193–196. PubMed: 3950429.
4. Skehel, J. J. and D. C. Wiley. "Receptor Binding and Membrane Fusion in Virus Entry: The Influenza Hemagglutinin." Annu. Rev. Biochem. 69 (2000): 531–569. PubMed: 10966468.
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6. Hatta, M., P. Gao, P. Halfmann, and Y. Kawaoka. "Molecular Basis for High Virulence of Hong Kong H5N1 Influenza A Viruses." Science 293 (2001): 1840–1842. PubMed: 11546875.
7. Hoffmann, E., et al. "Role of Specific Hemagglutinin Amino Acids in the Immunogenicity and Protection of H5N1 Influenza Virus Vaccines." Proc. Natl. Acad. Sci. U.S.A. 102 (2005): 12915–12920. PubMed: 16118277.
8. Govorkova, E. A., et al. "Immunization with Reverse-Genetics-Produced H5N1 Influenza Vaccine Protects Ferrets Against Homologous and Heterologous Challenge." J. Infect. Dis. 194 (2006): 159–167. PubMed: 16779721.

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