Influenza A Virus, A/Hong Kong/1/1968-2 Mouse-Adapted 21-2 (H3N2)

Catalog No. NR-28634

For research use only. Not for human use.

Contributor:
Earl G. Brown, Ph.D., Department of Biochemistry, Microbiology, and Immunology, University of Ottawa, Ottawa, Ontario, Canada

Manufacturer:
BEI Resources

Product Description:
Virus Classification: *Orthomyxoviridae, Influenzavirus A*
Species: Influenza A virus
Strain: A/Hong Kong/1/1968-2 mouse-adapted 21-2 (H3N2) [also referred to as A/Hong Kong/1-2-MA21-2/1968 (H3N2)]
Original Source: Influenza A virus, A/Hong Kong/1/1968-2 mouse-adapted 21-2 (H3N2) was derived from a virus isolated from a human in Hong Kong in 1968.[1]
Comments: Sequence information is available for influenza A virus, A/Hong Kong/1-2-MA21-2/1968 (H3N2) at the Influenza Research Database. Note that although NR-28634 was deposited to BEI Resources as A/Hong Kong/1/1968-2 mouse-adapted 21-2 (H3N2), nucleotide sequence obtained from the same source material by the NIAID Influenza Genome Sequencing Consortium was deposited to NCBI and IRD as A/Hong Kong/1-2-MA21-2/1968 (H3N2).

The prototype strain of the 1968 influenza epidemic in Hong Kong was originally isolated in primary monkey kidney cells by W. K. Chang[1] and sent to H. G. Pereira at the WHO World Influenza Center in London, from whom it was subsequently obtained by the Laboratory Center for Disease Control, Health Canada, Ottawa.[2] The virus was passaged twice in rhesus monkey kidney cells and three times in the allantoic cavity of embryonated chicken eggs before two plaque purifications in Madin-Darby canine kidney (MDCK) cells and re-amplification in embryonated chicken eggs. This virus (available as BEI Resources NR-28620) was subcloned by an additional round of plaque purification in MDCK cells. Subclone 2 was re-amplified again by two egg passages and inoculated intranasally into CD-1 mice. Virus extracts were prepared from lung homogenates after three days. After 21 sequential mouse passages, a clonal isolate was obtained by two plaque purifications in MDCK cells.[2,3] The mouse-adapted virus was passaged twice in specific pathogen free embryonated chicken eggs before deposit to BEI Resources.[4] Specific mutations in several viral genes are associated with adaptation to the mouse lung and evolution to increased virulence.[2,3] Other mutations, or combinations of mutations, are unique to certain isolates, and can be used to identify each individual mouse-adapted variant. The confirmation of the identity of NR-28634 is described on the Certificate of Analysis.

Material Provided:
Each vial contains approximately 1 mL of pooled allantoic fluid from specific pathogen free (SPF) embryonated chicken eggs infected with influenza A virus, A/Hong Kong/1/1968-2 mouse-adapted 21-2 (H3N2).

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

Packaging/Storage:
NR-28634 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: 9- to 11-day-old SPF embryonated chicken eggs
Infection: Embryonated chicken eggs must be candled to confirm viability prior to inoculation
Incubation: 2 days at 35°C in a humidified chamber without CO_2
Effect: Hemagglutination activity using allantoic fluid from infected embryonated chicken eggs and chicken red blood cells

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Influenza A Virus, A/Hong Kong/1/1968-2 Mouse-Adapted 21-2 (H3N2), NR-28634."

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.

Disclaimers:
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References:

1. Chang, W. K. “National Influenza Experience in Hong Kong, 1968.” Bull. World Health Organ. 41 (1969): 349-351. PubMed: 5309438.
2. Ping, J., et al. “Genomic and Protein Structural Maps of Adaptive Evolution of Human Influenza A Virus to Increase Virulence in the Mouse.” PLoS One. 6 (2011): e21740. PubMed: 21738783.
3. Brown, E. G., et al. “Pattern of Mutation in the Genome of Influenza A Virus on Adaptation to Increased Virulence in the Mouse Lung: Identification of Functional Themes.” Proc. Natl. Acad. Sci. USA 98 (2001): 6883-6888. PubMed: 11371620.
4. Brown, E. G., Personal Communication.

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