SANTA CRUZ BIOTECHNOLOGY, INC.

Influenza A NP (9G8): sc-101352

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Influenza A viruses are negative sense, single-stranded, segmented RNA viruses which are hosted by birds but may infect several species of mammals. All known subtypes are endemic in birds. Influenza A subtypes of are classified based on the combination of the virus coat glycoproteins hemagglutinin (HA) and neuraminidase (NA) subtypes. There are 16 different HA antigens (H1-H16) and 9 different NA antigens (N1-N9) for Influenza A. The extent of infection into host organisms is determined by HA, which interacts with cell surface proteins containing oligosaccharides with terminal sialyl residues. Influenza A nucleoprotein (NP) associates with its RNA genome and is present in eight separate segments of ribonucleoprotein (RNP), each of which has to be present for successful replication.

REFERENCES

1. Green, N., et al. 1982. Immunogenic structure of the influenza virus hemagglutinin. Cell 28: 477-487.
2. Gething, M.J., et al. 1986. Expression of wild-type and mutant forms of influenza hemagglutinin: the role of folding in intracellular transport. Cell 46: 939-950.
3. Webster, R.G., et al. 1987. Influenza virus A pathogenicity: the pivotal role of hemagglutinin. Cell 50: 665-666.

SOURCE

Influenza A NP (9G8) is a mouse monoclonal antibody raised against recombinant Influenza A NP.

PRODUCT

Each vial contains 50 µg IgG_{2a} kappa light chain in 500 µl of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Influenza A NP (9G8) is recommended for detection of nucleoprotein (NP) of Influenza A virus origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:2500) and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:100-1:5000); non cross-reactive with Influenza B or other respiratory viruses.

Molecular Weight of Influenza A NP: 56 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

SELECT PRODUCT CITATIONS

1. Chen, Y.H., et al. 2012. Methamphetamine reduces human Influenza A Virus replication. PLoS ONE 7: e48335.
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3. Zhang, P., et al. 2014. A highly sensitive europium nanoparticle-based immunoassay for detection of Influenza A/B virus antigen in clinical specimens. J. Clin. Microbiol. 52: 4385-4387.
4. Gao, S., et al. 2015. Interaction of NS2 with AIMP2 facilitates the switch from ubiquitination to SUMOylation of M1 in Influenza A Virus-infected cells. J. Virol. 89: 300-311.
5. Hoa, L.N.M., et al. 2016. Association between hemagglutinin stem-reactive antibodies and Influenza A/H1N1 virus infection during the 2009 pandemic. J. Virol. 90: 6549-6556.
6. Shan, J., et al. 2017. Histone demethylase LSD1 restricts Influenza A Virus infection by erasing IFITM3-K88 monomethylation. PLoS Pathog. 13: e1006773.
7. Lejal, N., et al. 2018. Turning off NADPH oxidase-2 by impeding p67phox activation in infected mouse macrophages reduced viral entry and inflammation. Biochim. Biophys. Acta 1862: 1263-1275.
8. Phuong, N.H., et al. 2018. Development and characterization of monoclonal antibodies against nucleoprotein for diagnosis of Influenza A virus. J. Microbiol. Biotechnol. 28: 809-815.
9. Dilly, S., et al. 2018. From naproxen repurposing to naproxen analogues and their antiviral activity against Influenza A Virus. J. Med. Chem. 61: 7202-7217.
10. Zheng, W., et al. 2019. Naproxen exhibits broad anti-influenza virus activity in mice by impeding viral nucleoprotein nuclear export. Cell Rep. 27: 1875-1885.e5.
11. Chen, Y., et al. 2020. Synthesis of a hexavalent betulinic acid derivative as a hemagglutinin-targeted influenza virus entry inhibitor. Mol. Pharm. 17: 2546-2554.
12. Sharma, A., et al. 2020. Influenza A virus nucleoprotein activates the JNK stress-signaling pathway for viral replication by sequestering host filamin A protein. Front. Microbiol. 11: 581867.
13. Farre, C., et al. 2020. Specific and sensitive detection of Influenza A virus using a biotin-coated nanoparticle enhanced immunomagnetic assay. Anal. Bioanal. Chem. E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.