SANTA CRUZ BIOTECHNOLOGY, INC.

Influenza A pb1 (vK-20): sc-17601

BACKGROUND

Influenza viruses are divided into three types, designated A, B and C. Influenza types A and B are responsible for epidemics of respiratory illness that occur almost every winter and are often associated with increased rates for hospitalization and death. Influenza type A viruses are divided into subtypes based on differences in two viral proteins called hemagglutinin (H) and neuraminidase (N). The influenza virus RNA polymerase consists of three virus-encoded proteins, pb1, pb2 and pa. pb1 is the subunit involved in the catalytic activity of nucleotide polymerization and is involved in the initiation of transcription. Both pb1 and pb2 can be crosslinked to synthetic RNA with the 3' terminal sequence of vRNA. These two subunits may also be involved in recognition of the promoter and/or replication origin on template vRNA. pb2 is the cap 1-recognition protein, which binds to the cap structure of host cell RNA, otherwise know as "cap snatching". The cap structure then acts as a primer for transcription to produce viral mRNA.

REFERENCES

1. Mitnaul, L.J., et al. 2000. Balanced hemagglutinin and neuraminidase activities are critical for efficient replication of Influenza A virus. J. Virol. 13: 6015-6020.
2. Fleming, D.M., et al. 2001. Update on influenza and other viral pneumonias. Curr. Opin. Infect. Dis. 2: 199-204.
3. Bullido, R., et al. 2001. Influenza A virus NEP (ns2 protein) downregulates RNA synthesis of model template RNAs. J. Virol. 10: 4912-4917.
4. Abe, T., et al. 2001. Antisense therapy of influenza. Eur. J. Pharm. Sci. 1: 61-69.

SOURCE

Influenza A pb1 (vK-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of pb1 of Influenza A virus origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17601 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Influenza A pb1 (vK-20) is recommended for detection of pb1 of Influenza A virus origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

SELECT PRODUCT CITATIONS

1. Ehrhardt, C., et al. 2006. Bivalent role of the phosphatidylinositol-3-kinase (PI3K) during influenza virus infection and host cell defence. Cell. Microbiol. 8: 1336-1348.
2. Ehrhardt, C., et al. 2007. Influenza A virus ns1 protein activates the PI3K/Akt pathway to mediate antiapoptotic signaling responses. J. Virol. 81: 3058-3067.
3. Bradel-Tretheway, B.G., et al. 2008. The human H5N1 influenza A virus polymerase complex is active *in vitro* over a broad range of temperatures, in contrast to the WSN complex, and this property can be attributed to the pb2 subunit. J. Gen. Virol. 89: 2923-2932.
4. McAuley, J.L., et al. 2009. The effects of influenza A virus PB1-F2 protein on polymerase activity are strain specific and do not impact pathogenesis. J. Virol. 84: 558-564.
5. Viemann, D., et al. 2011. H5N1 virus activates signaling pathways in human endothelial cells resulting in a specific imbalanced inflammatory response. J. Immunol. 186: 164-173.
6. Bradel-Tretheway, B.G., et al. 2011. Comprehensive proteomic analysis of influenza virus polymerase complex reveals a novel association with mitochondrial proteins and RNA polymerase accessory factors. J. Virol. 85: 8569-8581.
7. Nordmann, A., et al. 2012. A new splice variant of the human guanylate-binding protein 3 mediates anti-influenza activity through inhibition of viral transcription and replication. FASEB J. 26: 1290-1300.
8. Terrier, O., et al. 2012. The influenza fingerprints: NS1 and M1 proteins contribute to specific host cell ultrastructure signatures upon infection by different influenza A viruses. Virology 432: 204-218.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.