SANTA CRUZ BIOTECHNOLOGY, INC.

Influenza A m1 (vN-20): sc-17588

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 matrix 1, otherwise known as m1, is a critical protein required for assembly and budding. Hemagglutinin (HA) and neuraminidase (NA) interact with influenza virus m1 and HA associates with m1 via its cytoplasmic tail and transmembrane domain. The m2 and NB proteins are critical in the replication cycle of influenza viruses. The m2 channel protein is an essential component of the viral envelope because of its ability to form a highly selective, pH-regulated, proton-conducting channel. The m2 channel allows protons to enter the virus' interior, and acidification weakens the interaction of the m1 protein with the ribonuclear core.

REFERENCES

1. Pinto, L.H., Dieckmann, G.R., Gandhi, C.S., Papworth, C.G., Braman, J., Shaughnessy, M.A., Lear, J.D., Lamb, R.A. and DeGrado, W.F. 1997. A functionally defined model for the m2 proton channel of Influenza A virus suggests a mechanism for its ion selectivity. Proc. Natl. Acad. Sci. USA 94: 11301-11306.
2. Kukol, A., Adams, P.D., Rice, L.M., Brunger, A.T. and Arkin, I.T. 1999. Experimentally based orientational refinement of membrane protein models: a structure for the Influenza A m2 H^+ channel. J. Mol. Biol. 286: 951-962.
3. Mould, J.A., Li, H., Dudlak, C.S., Lear, J.D., Pekosz, A., Lamb, R.A. and Pinto, L.H. 2000. Mechanism for proton conduction of the m2 ion channel of Influenza A virus. J. Biol. Chem. 275: 8592-8599.
4. Ali, A., Avalos, R.T., Ponimaskin, E. and Nayak, D.P. 2000. Influenza virus assembly: effect of influenza virus glycoproteins on the membrane association of m1 protein. J .Virol. 18: 8709-8719.
5. Fleming, D.M. and Zambon, M. 2001. Update on influenza and other viral pneumonias. Curr. Opin. Infect. Dis. 2: 199-204.

SOURCE

Influenza A m1 (vN-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Influenza A m1.

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-17588 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Influenza A m1 (vN-20) is recommended for detection of m1 of Influenza A origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Influenza A m1: 38 kDa.

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. Terajima, M., Cruz, J., Leporati, A.M., Orphin, L., Babon, J.A., Co, M.D., Pazoles, P., Jameson, J. and Ennis, F.A. 2008. Influenza A virus matrix protein 1-specific human $CD8^+$ T-cell response induced in trivalent inactivated vaccine recipients. J. Virol. 82: 9283-9287.
2. Co, M.D., Orphin, L., Cruz, J., Pazoles, P., Green, K.M., Potts, J., Leporati, A.M., Babon, J.A., Evans, J.E., Ennis, F.A. and Terajima, M. 2009. *In vitro* evidence that commercial influenza vaccines are not similar in their ability to activate human T cell responses. Vaccine 27: 319-327.

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.