OPEN ACCESS Freely available online

Journal of Glycobiology

Perspective

Hemagglutination Test for Diagnosis of Influenza Virus

Lasya Verma*

Department of Biomolecular Health Sciences, Jawaharlal Nehru University, Delhi, India.

ABSTRACT

The hemagglutination test is a tool utilized to screen cell culture supernatant liquid collected from embryonated chicken eggs for hemagglutinating operators, such as type A flu. The HA is not an recognizable proof test, as other specialists too have hemagglutinating properties.

Keywords: Type A flu; Cell culture supernatant liquid.

INTRODUCTION

Flu hemagglutinin (HA) could be a homotrimeric glycoprotein found on the surface of flu viruses and is indispensably to its infectivity. Hemagglutinin could be a Course I Combination Protein, having multifunctional movement both has connection figure and film combination protein [1]. causing as a result the internalization of the virus [2]. Optionally, HA is mindful for the combination of the viral envelope with the late endosomal film once uncovered to low pH [3].

The title "hemagglutinin" comes from the protein's capacity to cause ruddy blood cells (erythrocytes) to clump together ("agglutinate") in vitro [4].

HA may be a homotrimeric indispensably film glycoprotein. It is molded like a barrel, and is roughly 13.5 nanometres long [5]. HA trimer is made of three indistinguishable monomers.

Each monomer is made of an intaglio HA0 single polypeptide chain with HA1 and HA2 locales that are connected by 2 disulfide bridges. Each HA2 locale receives alpha helical coiled coil structure and sits on top of the HA1 locale, which could be a little globular space that comprises of a blend of α/β structures.

The HA trimer is amalgamate as inert antecedent protein HA0 to avoid any untimely and undesirable combination action and must be cleaved by have proteases in arrange to be irresistible.

The C-terminus of HA2, moreover known as the transmembrane space, ranges the viral layer

Influenza A viruses (IAVs) sometimes cross the species boundary and adjust to novel host species. This requires rearrangement of the functional balance of the sialic corrosive receptor-binding hemagglutinin (HA) and the receptor-destroying neuraminidase (NA) to the sialoglycan-receptor collection of the modern host. Novel methods have uncovered mechanistic details of this HA–NA–receptor adjust, emphasizing a already underappreciated significant part for NA in driving the motility of receptor-associated IAV particles. Motility enables virion infiltration of the sialylated mucus layer as well as connection to, and take-up into, underlying epithelial cells.

As IAVs are basically irreversibly bound within the absence of NA action, the fine-tuning of the HA–NA–receptor balance instead of the binding avidity of IAV particles per se is an critical factor in determining host species tropism.

These three hemagglutinins H1, and H2, H3, are spotted in Influenza virus. By phylogenic likeness, the HA proteins are partitioned into 2 bunches, with H1, H2, H6, H5, H8, H9, H11, H12, H13, H16, H17, and H18 having a place to gather 1 and the rest in gather 2. It is dependable for authoritative the infection to the cell that's being contaminated. Once occur, the viral RNA genome enters into the cell's cytoplasm.

***Correspondence to:** Lasya Verma, Department of Biomolecular Health Sciences, Jawaharlal Nehru University, Delhi, India, E-mail: lasyaverma@gmail.com

Received: March 5, 2021; ***Accepted*:** March 18, 2021; **Published:** March 25, 2021

Citation: Verma L. (2021) Hemagglutination Test for Diagnosis of Influenza Virus. J Glycobiol 10:159.

REFERENCES

1. Russell RJ, Kerry PS, Stevens DJ, Steinhauer DA, Martin SR, et al. "Structure of influenza hemagglutinin in complex with an inhibitor of membrane fusion". Proceedings of the National Academy of Sciences of the United States of America. J. Glycobiol. 2008;105 : 17736–41.
2. Edinger, Thomas O, Pohl, Marie O, Stertz, et al. "Entry of influenza A virus: host factors and antiviral targets" (PDF). The Journal of General Virology. J. Glycobiol. 2014;95: 263–277.
3. Horvath, Peter, Helenius, Ari, Yamauchi, et al. "High-Content Analysis of Sequential Events during the Early Phase of Influenza A Virus Infection". PLOS ONE. J. Glycobiol. 2013;8: e68450.
4. Nelson DL, Cox MM. Lehninger's Principles of Biochemistry (4th ed.). New York: WH Freeman. J. Glycobiol. 2005.
5. Wilson IA, Skehel JJ, Wiley DC. "Structure of the haemagglutinin membrane glycoprotein of influenza virus at 3 A resolution". Nature. J. Glycobiol. 1981;289: 366–73.