Jiansong Tong, J Clin Cell Immunol 2013, 4:5
http://dx.doi.org/10.4172/2155-9899.S1.015

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Clinical & Cellular Immunology
October 15-17, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA

Recombinatory hemagglutinin in mammalian cells for vaccine production

Jiansong Tong
The Scripps Research Institute, USA

Influenza hemagglutinin (HA) is an antigenic glycoprotein presented on the surface of virus and plays critical roles for the entry of virus into the cell. It has been implied as a primary target to produce neutralizing antibodies to prevent the viral infection. Although approved by US Food and Drug Administration, the current production process for the three vaccines takes about 6 months and their antigenic compositions must be modified annually. Therefore, multiple attempts have been described to develop novel methods to replace the traditional vaccine production technology. One of the studies that has been proved as safe and efficient on clinical trials is to directly inject recombinatory HA (rHA) into human subjects to produce neutralizing antibodies. However, the rHA used in those studies were purified from insect expression systems rather than mammalian cells. Here, we used different expression vectors trying to over express rHA in mammalian cells. Both western blots and fluorescence imaging data suggested only very few amounts of rHA expressed in cells by common vectors pcDNA3.1 and gateway destination vector pDEST40. However, rHA can be greatly over expressed in mammalian cells when *HA* was constructed into lentiviral vector. Endo H assay and sucrose density gradient fractionation experiment confirmed rHA was folded and trafficked correctly in the cell. Furthermore, hemadsorption assay verified the functionality of rHA. In summary, we built a stable mammalian cell line to successfully over express rHA that could be useful to produce influenza vaccine.

Biography

Jiansong Tong completed his Ph.D. from Department of Biochemistry, Biophysics and Molecular Biology at Iowa State University at Ames, Iowa USA. Currently, he is a research associate in Department of Cell Biology at The Scripps Research Institute at La Jolla, CA USA. He has published several papers in esteemed journals including *PNAS, Nucleic Acids Res, JBC*, and *BMC Systems Biol* etc. He has also served as an editorial board member for *Journal of Clinical and Cellular Immunology* since year 2010 and associate editor for *Journal BMC Biotechnology* from year 2013.

bjltjs@scripps.edu