Retrovirology

Poster presentation

Cross-reactive Anti-gp41 HIV-1 Neutralizing Human Monoclonal Antibodies Selected by Competitive Panning Against gp140 – an Update

Mei-Yun Zhang[1,2], Bang Vu*‡[1], Vidita Choudhry[1], Igor Sidorov[1], Vladimir Tenev[1] and Dimiter S Dimitrov[1]

Address: [1]Protein Interactions Group, LECB, CCR, NCI-Frederick, NIH, Frederick, MD 21702 and [2]BRP, SAIC-Frederick, Inc., NCI-Frederick, Frederick, MD 21702

Email: Bang Vu* - vub@ncifcrf.gov

* Corresponding author ‡Presenting author

from 2005 International Meeting of The Institute of Human Virology
Baltimore, USA, 29 August – 2 September 2005

Published: 8 December 2005

Retrovirology 2005, **2**(Suppl 1):P102 doi:10.1186/1742-4690-2-S1-P102

By using a methodology based on competitive panning against gp140 in presence of excess of gp120 we identified seven new human monoclonal antibodies, m42-48, which bound to gp140s from primary isolates representing different clades. Some of them also bound a gp41-Fc fusion protein but not peptides and denatured gp140 suggesting that their epitopes are conformational; they competed with the cluster IV antibody T3 suggesting involvement of membrane proximal regions. The antibody Fabs inhibited entry mediated by envelope glycoproteins from primary isolates from different clades with potency on average comparable to that of Fab Z13; one of these antibodies, m48, was much more potent in an IgG1 format. Some of the antibodies were converted to scFvs to test the possibility for steric restriction effects; the experiments are ongoing and the results will be presented. These results indicate the possibility that conformational epitopes on gp41 could be a target for broadly neutralizing antibodies and may have potential for the development of new vaccine immunogens.

Members of my group, including Ponraj Prabakaran, You-Qiang Wu, Samitabh Chakraborti, and Xiaodong Xiao, as well as our collaborators, especially C. Broder, G. Quinnan, R. Blumenthal, D. Montefiori, and their groups contributed to these results.