

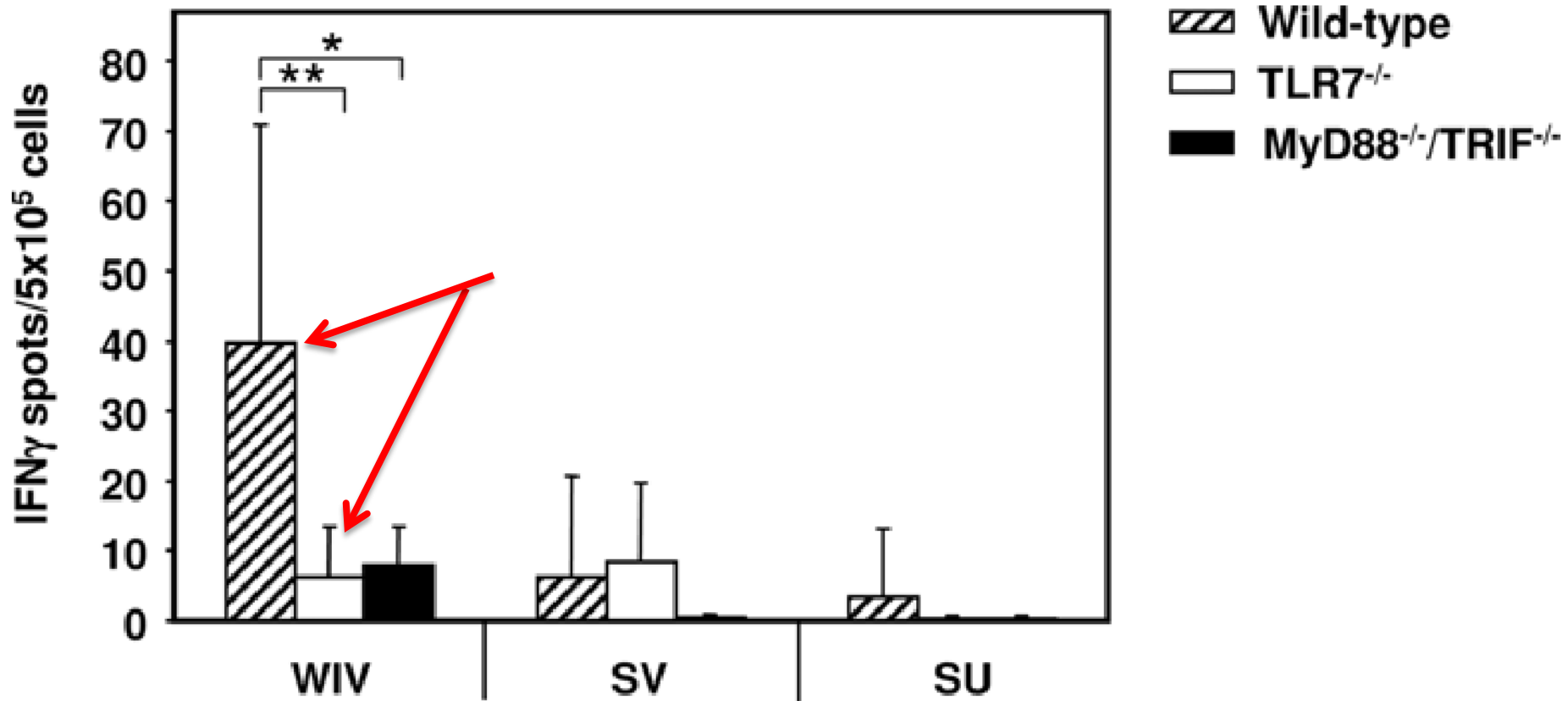


***Panel Discussion: How to
improve VLPs?***

**Darrick Carter, Ph.D.
Infectious Disease Research Institute
Seattle , WA, USA**



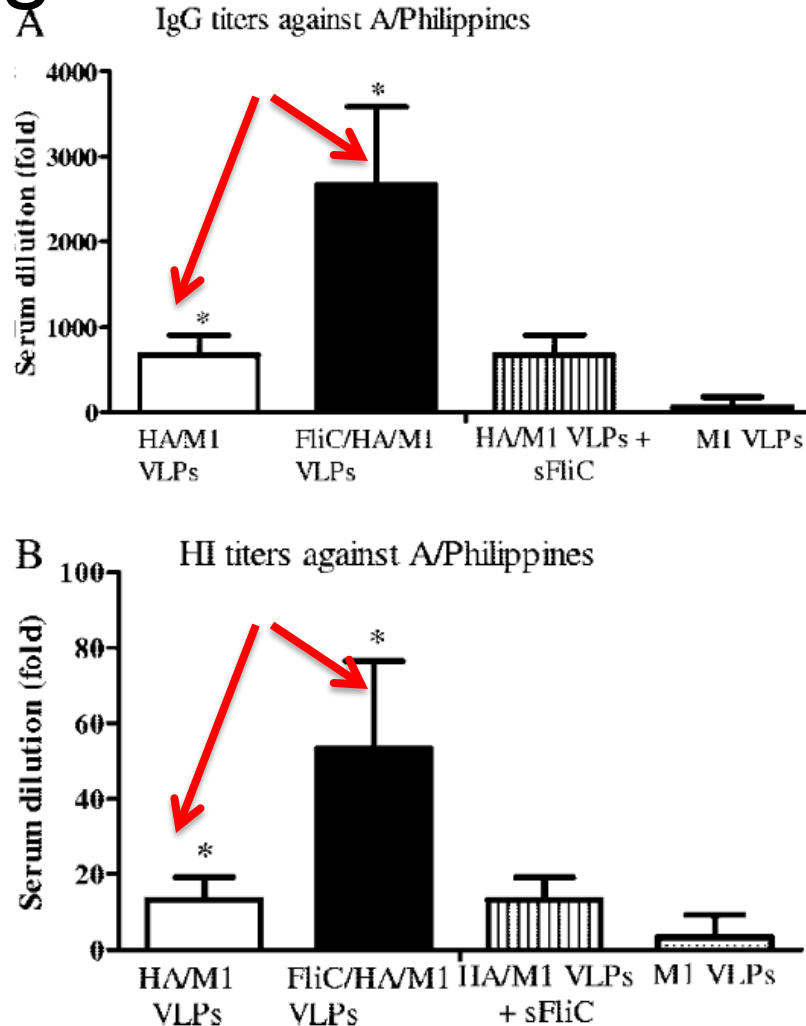
TLR-7 dependence in an inactivated virus



Geeraedts F, Goutagny N, Hornung V, Severa M, de Haan A, et al. 2008 Superior Immunogenicity of Inactivated Whole Virus H5N1 Influenza Vaccine is Primarily Controlled by Toll-like Receptor Signalling. PLoS Pathog 4(8): e1000138.



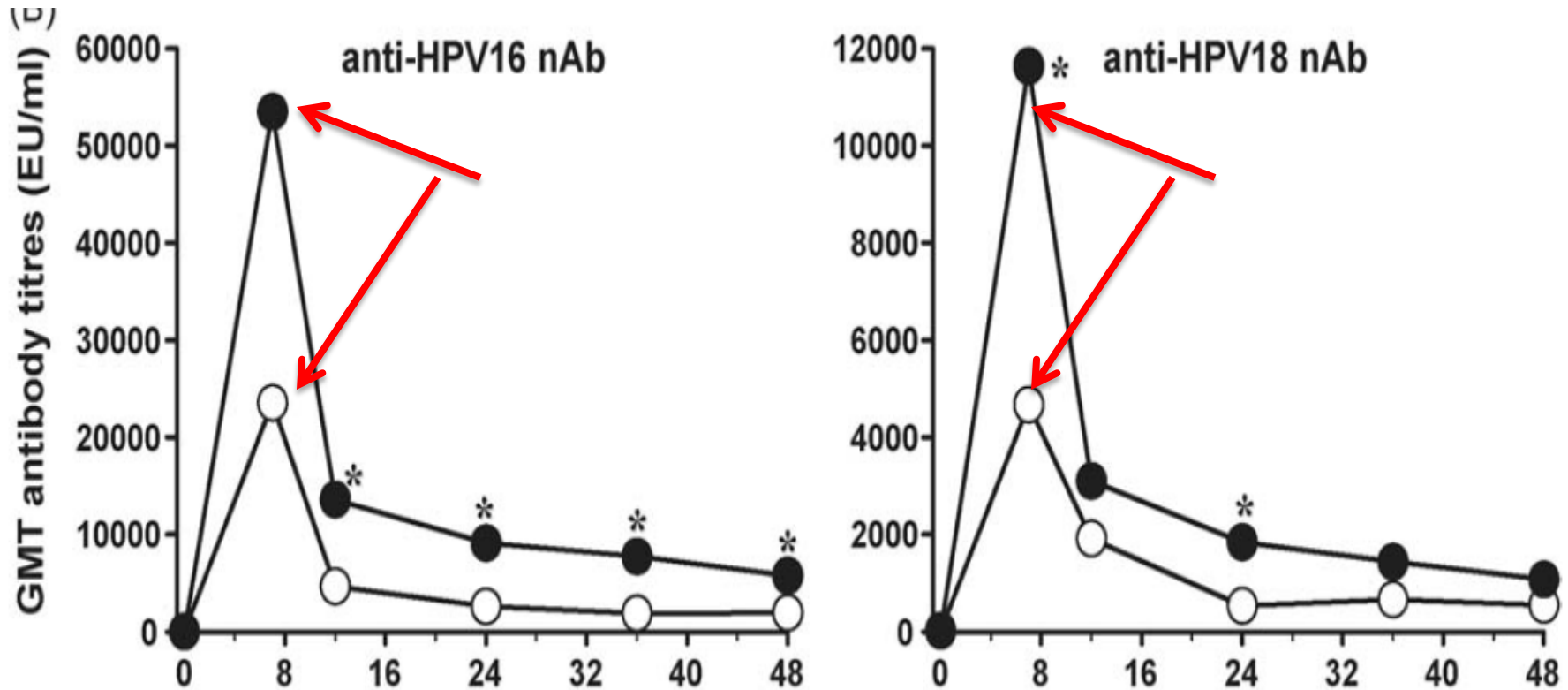
TLR-5 agonist enhances M1 VLPs



JOURNAL OF VIROLOGY, Dec. 2008, p. 11813–11823 "Incorporation of Membrane-Anchored Flagellin into Influenza Virus-Like Particles Enhances the Breadth of Immune Responses" Bao-Zhong Wang, Fu-Shi Quan, Sang-Moo Kang, Jadranka Bozja, Ioanna Skountzou, and Richard W. Compans*



TLR-4 agonism enhances response



Giannini SL et al. *Vaccine* 2006 (24)5937-5949



TLR-4 dependence in HPV VLP



➔ Strong immunogen



➔ Enhanced immune response

AS04 = MPL + Al(OH)₃

Strong & sustained immune response

