A COMPARISON OF ADJUVANT EFFICACY FOR A RECOMBINANT HERPES SIMPLEX VIRUS GLYCOPROTEIN VACCINE. Rae Lyn Burke, Lisa Sanchez-Pescador, Gary Ott and Gary Van Nest. Chiron Corporation, Emeryville, CA. USA

We have been developing a vaccine for the prevention of and an immunotherapeutic for the treatment of genital herpes using recombinant DNA-derived subunit glycoproteins. Previous work has shown that these subunit vaccines require powerful immunopotentiating agents to achieve their full potential in disease prevention. We have now compared the ability of various adjuvants to stimulate an antibody response and to provide protective immunity against a genital HSV challenge in guinea pigs. A secreted form of HSV1 glycoprotein gD was formulated with Complete Freunds Adjuvant (CFA), alum, two muramyl dipeptide derivatives, and a lipophilic muramyl tripeptide (MTP-PE). The muramyl peptides were tested with various vehicles including a 50% oil emulsion, a 4% oil emulsion, liposomes and chemically crosslinked to the antigen itself. CFA and several of the muramyl peptide formulations elicited very high antibody titers. The CFA and MTP-PE formulations also the markedly reduced the clinical symptoms of genital herpes infection including the incidence and severity of lesions, urinary retention and mortality compared to the alum-adjuvanted and the control groups. Thus, MTP-PE appears to be an effective adjuvant for the development of a recombinant herpes vaccine.