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A NOVEL ANTIGEN DELIVERY SYSTEM VIA FCγ RECEPTORS INDUCES ROBUST IMMUNE RESPONSES

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Antigen-presenting cells are important for the induction of immune responses. Dendritic cells (DCs) are most effective antigen-presenting cells. They patrol in the peripheral and continuously sample their surrounding environment with various receptors. Fcγ receptors (FcγRs) express on dendritic cells. They bind to the constant fragment of IgG and are crucial to mediate internalization of antigen-antibody complexes (immune complexes, ICs). Internalization of IC facilitates antigen uptake and presentation by DCs. In this context, targeting of antigen to DCs via FcγRs potentially constitutes an effective strategy for modulation of antigen-specific immune responses. Formyl peptide receptor-like 1inhibitory protein (FLIPr), secreted by *Staphylococcus aureus*, is a potent FcγR antagonist and bind to various FcγRs. In this study, we developed a novel antigen delivery system by fusion antigen with FLIPr. Ovalbumin (OVA) was used as a model antigen. Our results show that OVA-FLIPr fusion protein (OVA-FLIPr) possesses FcγR binding ability. Immunization of mice with OVA-FLIPr but not OVA can induce both OVA-specific CD4 and CD8 T cell responses without exogenous adjuvant formulation. In addition, we demonstrate that OVA-specific cytotoxicity is elicited and mediate antitumor response in mice immunized with OVA-FLIPr. These results indicate that FLIPr is a potential vector to deliver antigen to DCs via FcγRs which induce robust immune responses without exogenous adjuvant formulation.

Biography

Hsin-Wei Chen obtained his PhD in the field of Agricultural Chemistry from National Taiwan University, Postdoctoral training was in the immunology field at Academia Sinica and National Health Research Institutes. He is an Associate Investigator of National Health Research Institutes. He has published more than 50 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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