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International Conference on

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### THE ACCESS TO PRODUCE COMPATIBLE VIRAL VACCINES FOR INDIVIDUALITY

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There is a question why viral vaccines cannot be effective for everybody. This is a question that we need to revise our knowledge and manipulate in the right direction for the viral vaccine production. To prevent a viral infection, a body must produce a protective antibody to prevent the viral particle to attach the viral receptor on a target cell. Theoretically, adaptive immunity needs induction not only by an antigen but also our cellular molecule called major histocompatibility complex (MHC) to form a complex molecule with its appropriate epitope to activate a specific receptor of T cell. There are two classes of MHC molecules called class I and class II. MHC class I is required for inducing cytotoxic T cell while MHC class II is for helper T cell. Helper T cell plays a key role to induce an effective stage of acquired immunity including a specific protective antibody. To produce the viral-specific antibody, MHC class II plays a key role to induce helper T cell and then B cell to synthesize a specific antibody. Since the MHC gene alleles are highly polymorphic so the possibility that individuals have the same gene alleles might be one in a million which, mostly, can be found in those who are an identical twin. Accordingly, a subunit viral vaccine, which contains a limit number of epitopes, would reduce a capacity of an antigen presenting cell, such as a dendritic cell, to process some epitopes to induce the helper T cell clones. Subsequently, in some people, the corresponding B cell clones cannot synthesize the specific antibody to neutralize the infectious viral particle. Accordingly, this presentation will present the novel approach to develop the viral vaccine for everybody.

### BIOGRAPHY

Tirasak Pasharawipas has completed his PhD from Faculty of Microbiology, Mahidol University, Bangkok, Thailand. He has his postdoctoral training at NeuroVirology and Cancer Biology Center, Temple University, Philadelphia. At present, he is a full Professor in Microbiology and Immunology, Rangsit University, Thailand. His scientific fields mainly focus in viral and cellular interaction, bacteriophage and viral diseases in invertebrate animals. However, his research interests expand to viral vaccines, autoimmune disease and cancer biology including the relationship of MHC molecules to some specific diseases and viral vaccines. He enjoys being a reviewer for several journals and an advisor to develop young medical scientists with the wish that they would co-operate and succeed to solve all the problematic diseases, now and then, in a proper way with genuine scientific thinking.

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