Abstract Title: The efficacy and mechanism of Chinese herbal medicine on the induction of specific anti-tumor response

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Abstract

Virus infections may account for the development of several cancers, such as HPV16/18 are known to cause around 70% of cervical cancer cases. Until now, several immunotherapeutic approaches for virus-induced cancer are under development. Peptide-based vaccines have several advantages over conventional whole-protein vaccines in terms of purity, lot-to-lot consistency, production costs, and the high antigenic specificity. However, the use of peptide antigens in vaccine development has been hampered by problems, such as weak immunogenicity coupled with a paucity of potent adjuvants. Specific T cell immune response is crucial for anti-tumor immunity. Manipulating specific T cell immunity by Chinese herbal medicine (CHM) is a promising field to explore. Therefore, we aimed to investigate whether CHM can modulate specific T cell responses to apply for the development of cancer vaccine. We have identified a CHM extract that could increase expression of maturation cytokines and activation markers of murine bone marrow-derived dendritic cells (BM-DCs). Furthermore, in a murine TC-1 tumor-bearing model, we found that the CHM extract could act as an adjuvant to induce cellular immune responses and anti-tumor effect in peptide vaccine strategy. We suggested that immune-stimulator CHM combined with cancer vaccine endows them with increased immunologic activity, which may be used to bypass the requirement for the conditional adjuvant. Further delineation of the mechanism may provide new clues for vaccination strategy.

Keywords— Chinese herbal medicine (CHM), Human Papillomavirus (HPV), Cancer vaccine, T cell response

Professional Biography

Ying-Chyi Song has completed her PhD at the age of 32 years from National Yang Ming University and postdoctoral studies from National Health Research Institutes (NHRI) in Taiwan. She is an assistant professor in China Medical University, Taiwan. Dr. Ying-Chyi Song's current research interests involving development of cancer vaccines and immune adjuvants. She has published more than 15 papers in reputed journals.



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