세미나 초록

성명	한충용
소속	국립암센터
발표 주제	**Modulating Immune Responses in Adoptive T Cell Therapy of Cancer**
발표 내용	Adoptive T cell therapy (ACT), particularly chimeric antigen receptor (CAR) T cell therapy, has shown remarkable clinical success in hematologic malignancies. However, its application to solid tumors remains limited due to several major challenges, including heterogeneous tumor antigen expression, insufficient in vivo expansion and persistence of infused T cells, and the highly immunosuppressive tumor microenvironment. In a series of studies using both xenograft and syngeneic mouse models, we identified key factors influencing these limitations in ACT for solid tumors. CAR affinity was found to regulate the functional activation threshold and persistence of CAR-T. The choice of co-stimulatory domain within the CAR construct significantly influenced effector function, survival, and proliferative capacity—factors critical to in vivo persistence. Furthermore, we demonstrated that modulating the cytokine milieu through CD4+ T cell depletion, along with lymphodepletion strategies, could reprogram the tumor–immune interface to favor anti-tumor activity. Collectively, our findings highlight the importance of strategic modulation of immune responses to enhance the efficacy of ACT in solid tumors. These insights lay the groundwork for the development of next-generation immunotherapeutic strategies tailored for the solid tumor setting.