세미나 초록

성명	노영욱
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발표 주제	감염병 백신/면역증강제 평가 기술 소개
발표 내용	The COVID-19 pandemic highlights the importance of efficient and safe vaccine development. Many researchers are working on recombinant protein vaccines, considered among the safest vaccine types. However, these vaccines often exhibit limited immune activity, necessitating the use of adjuvants to boost their effectiveness. Vaccine efficacy is traditionally assessed by analyzing humoral and cellular immune responses in experimental animals, often without separate evaluation of adjuvants. Our study addresses this gap by evaluating the impact of various immune adjuvants on human monocyte-derived dendritic cells and macrophages. Evaluation is performed through cell phenotypic analysis, multiplex cytokine profiling, and mRNA sequence-based genetic analysis. In contrast to commonly used adjuvants like aluminum hydroxide, Toll-like receptor (TLR) agonists prove to induce robust phenotypic and functional dendritic cell maturation. Furthermore, we are actively accumulating comparative data to elucidate the correlation between adjuvant functionality in human immune cells and antibody titers and the neutralizing antibody capacities observed in experimental animals. While further research is imperative, our aspiration is that the data and platform technologies derived from this study will contribute to the establishment of a comprehensive library of well-characterized, 'ready-to-use' vaccine/adjuvant platforms—a crucial resource for enhanced preparedness against future pandemics.