

Korea provides new insights for effective vaccine strategies against COVID-19

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To understand the immunological effect of COVID-19 vaccines

An immunology research team at the Korea Advanced Institute of Science and Technology (KAIST) has found that most convalescent patients of COVID-19 develop and maintain T cell memory for over 10 months regardless of the severity of their symptoms.

In addition, memory T cells proliferate rapidly after encountering their cognate antigen and accomplish their multifunctional roles. This study provides new insights for effective vaccine strategies against COVID-19, considering the self-renewal capacity and multipotency of memory T cells.

Professor Eui-Cheol Shin and his collaborators investigated the characteristics and functions of stem cell-like memory T cells, which are expected to play a crucial role in long-term immunity. Researchers analyzed the generation of stem cell-like memory T cells and multi-cytokine producing polyfunctional memory T cells, using cutting-edge immunological techniques.

The team is presently conducting a follow-up study to identify the memory T cell formation and functional characteristics of those who received COVID-19 vaccines, and to understand the immunological effect of COVID-19 vaccines by comparing the characteristics of memory T cells from vaccinated individuals with those of COVID-19 convalescent patients.