Docket #: S19-363

A method for developing intra-epithelial innate lymphoid cells (tissue-resident NK cells) for immunotherapy

Researchers in the Sunwoo Lab have developed a method to differentiate intra-epithelial innate lymphoid cells type 1 (ieILC1s) from conventional peripheral natural kills cells for immunotherapeutic purposes. ieILC1s express higher levels of tumoricidal proteins such as interferon-gamma and granzymes in tumor microenvironments than conventional natural killer cells, leading to better tumor growth control in vivo. Thus, this differentiation method provides a pathway for ieILC1s to be adoptively transferred for immunotherapeutic purposes.

Stage of Research

- in vivo

Applications

- **Cancer immunotherapy for solid epithelial tumors**
- Differentiation of ieILC1 from NK cells

Advantages

- **Differentiation and expansion of ieILC1**
- High levels of tumorcidial proteins expressed from ieILC1s
- ieILC1s naturally reside within epithelial microenvironments

Patents

- Published Application: WO2021067792
- Published Application: 20230226109

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