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E12-3 [E] / がん免疫/Tumor immunology

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2019/09/27 09:00~10:15 Room 16 (5F Room 510) [E-2064] 09:00~10:15

腫瘍反応性 TIL 由来 TCR およびその認識抗原を用いた個別化がん免疫療法の展望

Prospect of personalized cancer immunotherapy using TIL-derived tumor reactive TCRs and its recognition antigens

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Recent advances of immunotherapy have urged us to have deep knowledge of tumor-reactive TILs and its recognition antigens for establishment of effective cancer immunotherapy. In this study, we aimed to establish the strategy for identification of tumor-reactive CD8⁺ TILs and its recognition antigens in colorectal tumor. To this end, at first, we have cloned T cell receptors (TCRs) by single cell PCR method from CD8⁺ TILs, and then analyzed the tumor-reactiveness of these TCRs by using autologous CTOS (cancer tissue-originated spheroid) cells. Indeed, we have successfully confirmed the existence of tumor reactive TCRs in about one-third patients. Interestingly, tumor reactivity did not correlate to the TCR repertoire size. Secondly, we tried to identify its recognition antigens by using “tandem neoantigen-coding minigene” method. Although we have successfully identified several neo-antigens recognized by these TCRs, we also noticed some TCRs recognized self-antigens. As shown in our data, adoptive transfer of tumor reactive TCR-transduced T cells seems effective for destruction of tumor, however, we might need to be careful in selecting tumor-reactive TCRs for therapy.