

論 文 要 旨

Novel Anti-CD70 Antibody Drug Conjugate for the Treatment of Adult T-Cell Leukemia (ATL)

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Background/Aim: Adult T-cell leukemia (ATL) is a hematological malignancy caused by infection with human T-cell leukemia virus type 1 (HTLV-1). Chemotherapy, antibody therapy, and bone marrow transplantation are used to treat this disease, however, median survival time has not been significantly improved. Our aim was to develop and evaluate a novel antibody-drug conjugate (ADC) with regards to cell cytotoxicity and target specificity.

Materials and Methods: In this study, we have constructed a novel ADC, which is composed of an anti-CD70 single chain Fv-Fc antibody conjugated with the anticancer agent emtansine using a novel antibody modification method. Cell cytotoxicity and target specificity were assessed using a cell proliferation assay.

Results: The anti-CD70 ADC selectively killed HTLV-1-infected cells and ATL cells without affecting other cells.

Conclusion: The anti-CD70 ADC offers some chemotherapeutic potential for the treatment of ATL.