

# Evaluation of tumor infiltrating lymphocytes (TILs) using humanized mouse model

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# COI Disclosure Information

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*I have no financial relationships to disclose.*

**In recent years, research and development of immunity checkpoint inhibitors have become active. HuNOG mice have a human immune system in part (humanized mice) and useful for preclinical immunotherapy research.**

**In this study, we examined the evaluation method for tumor infiltrating lymphocytes (TILs) using huNOG mice.**

## Animals

huNOG mice (Central Institute for Experimental Animals), ♀

## Cancer cell line

Human breast cancer cell line: MDA-MB-231 (ATCC)

## Administration substance

- Pembrolizumab (anti-PD-1 antibody): Selleck
- Human IgG4, kappa Isotype Control (control antibody): CrownBio

## Equipment

- gentleMACS Octo Dissociator with Heaters: Miltenyi Biotec
- BD FACSLyric Flow Cytometer: BD Biosciences

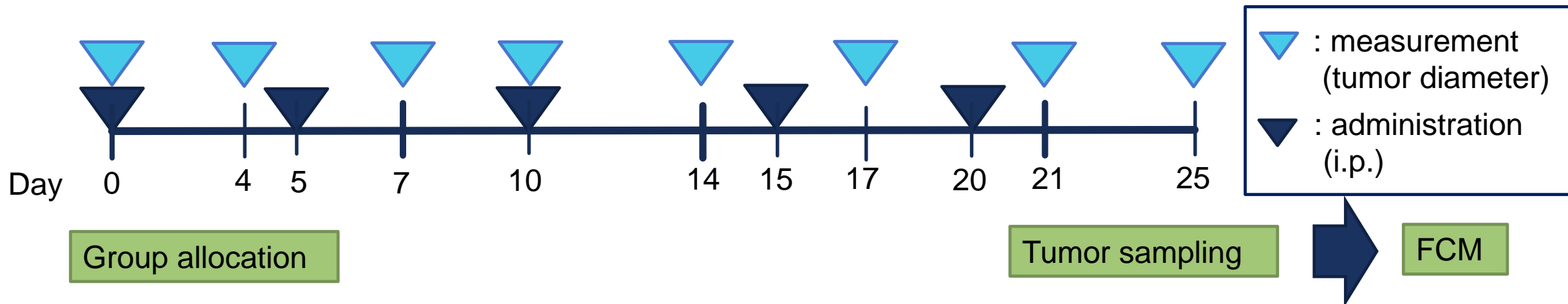
## Group configuration

Group	Dose	Number
Control	10 mg/kg	6
anti-PD-I antibody	10 mg/kg	6

## Evaluation

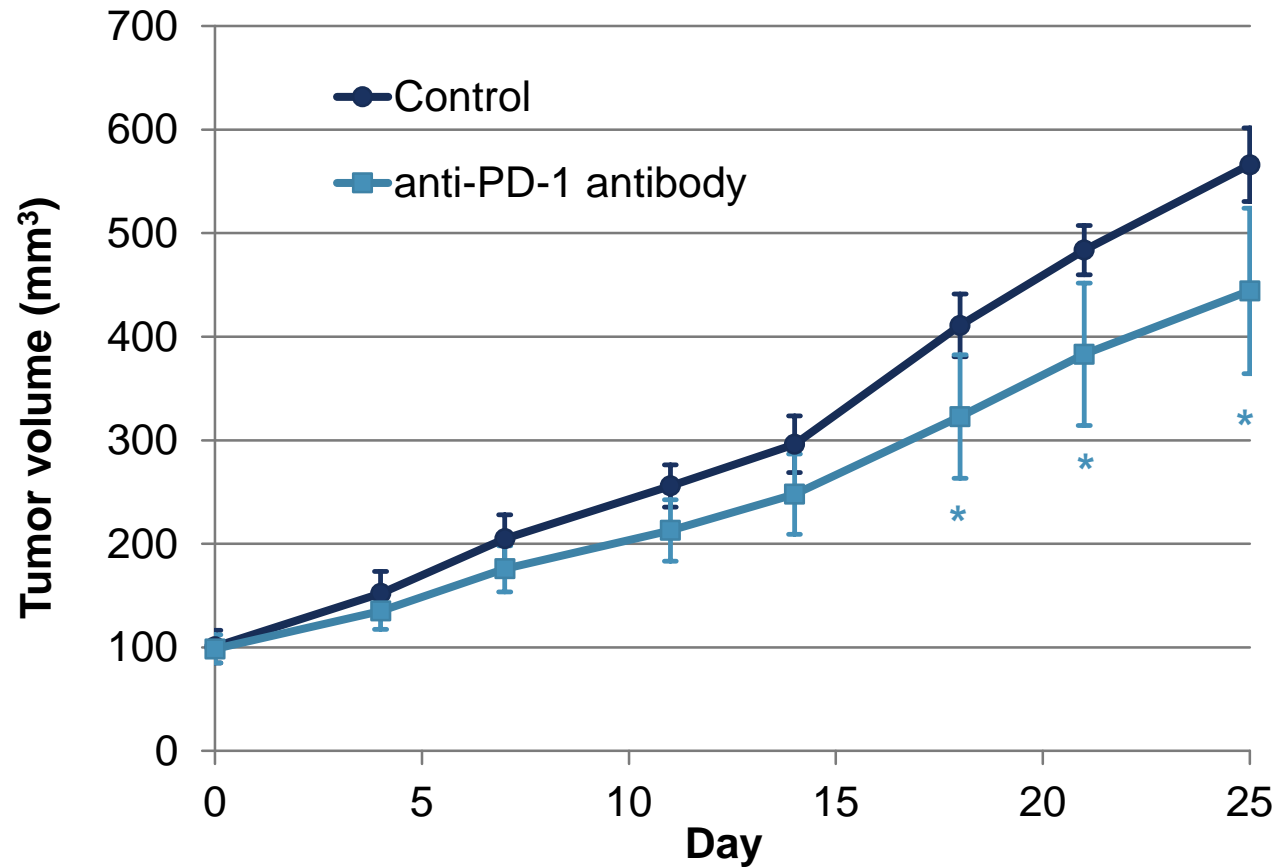
- Tumor volume
- % of hCD4<sup>+</sup>, hCD8<sup>+</sup>, hCD4<sup>+</sup>FoxP3<sup>+</sup> cells

## Experiment Schedule



# Results (1)

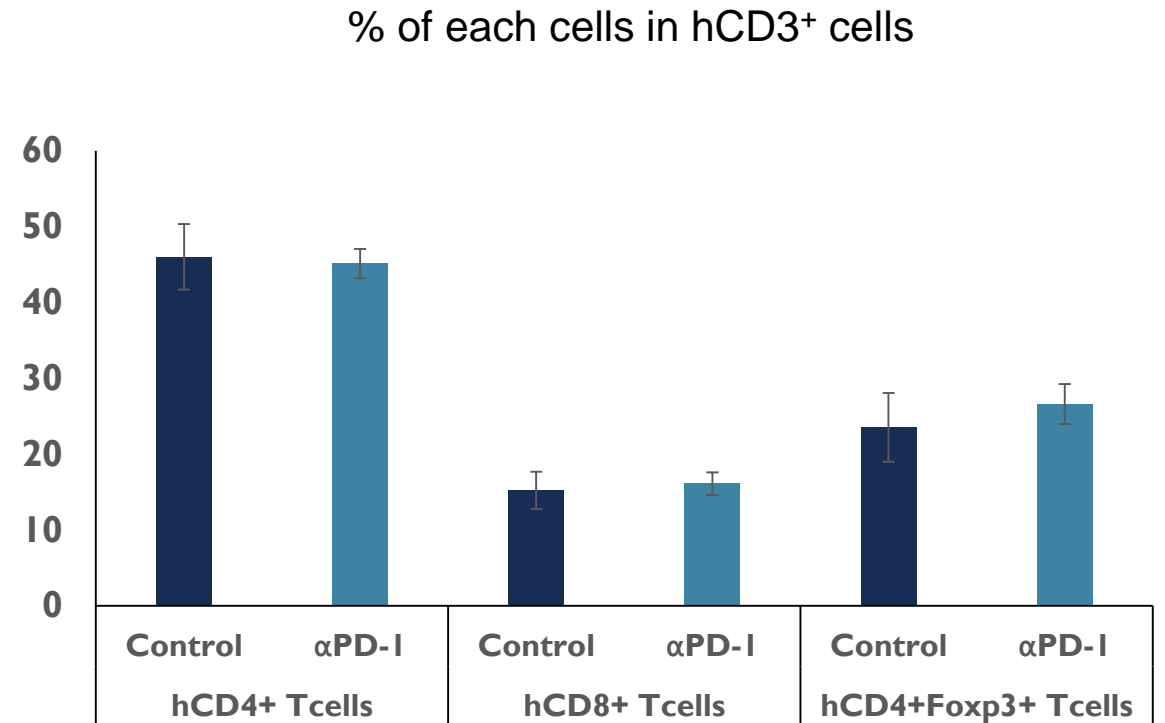
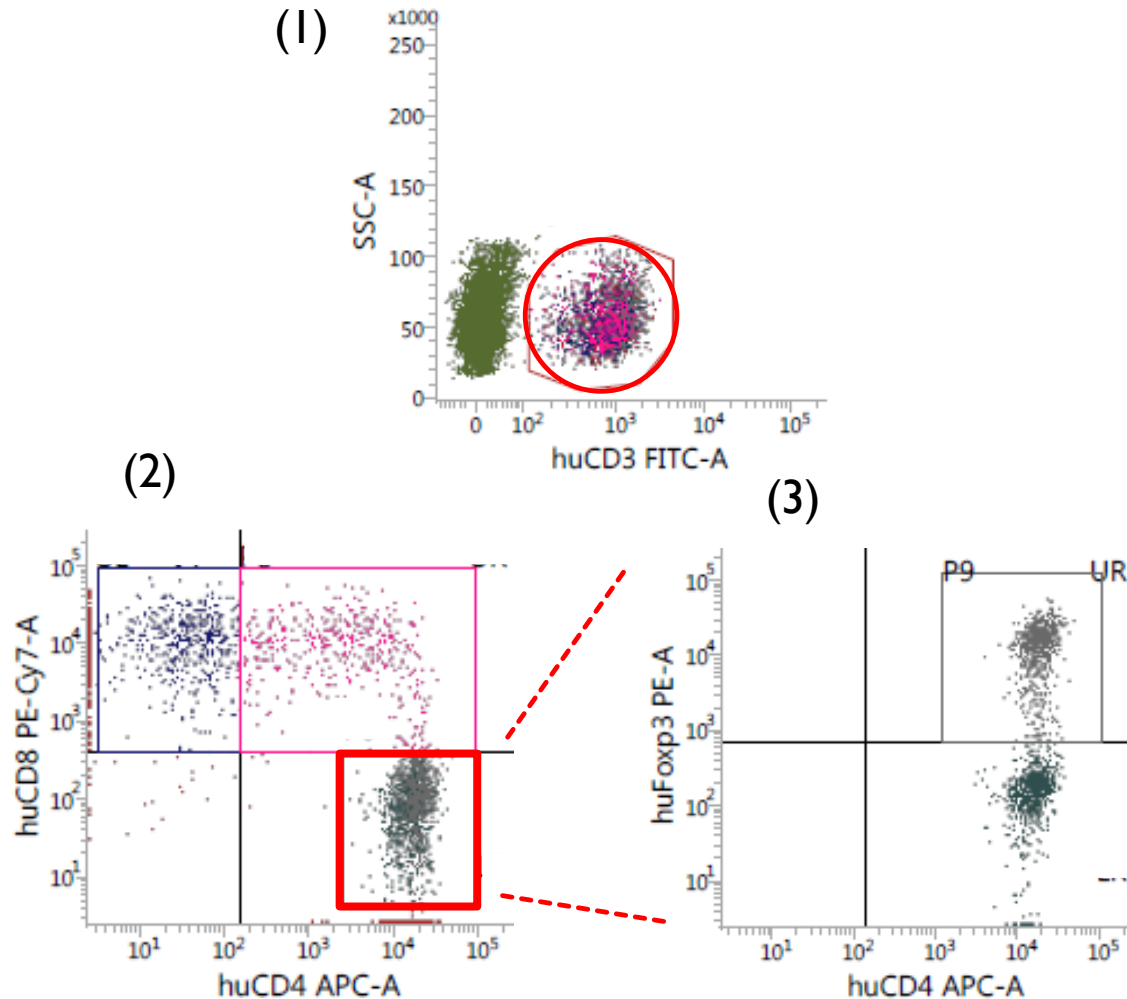
## Anti-tumor effect of Pembrolizumab in MDA-MB-231 bearing-huNOG mice



Points, mean for 6 animals; vertical bars, S.E.  
\*  $p < 0.05$  vs the control group (Student's t test).

# Results (2)

## Flow cytometric analysis of TILs



Columns, mean for 6 animals; vertical bars, S.E.

- **Pembrolizumab was found to have antitumor effects in this model.**
- **hCD4 and hCD8 cells isolated from the tumor cells were observed like those in the spleen used as a measurement control.**

**These results indicated that an evaluation system for TILs has been successfully established in the huNOG mouse model under the present experimental condition.**