

The Evaluation of Humanized Mice Model Using Flow Cytometry

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Objective

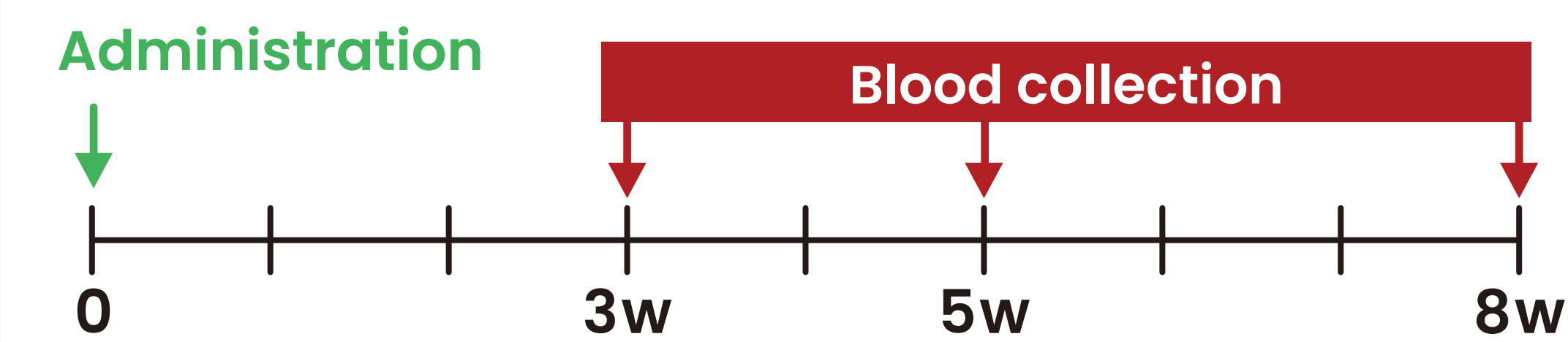
Humanized mice are generated by transplanting human cells into immunodeficient mice, mimicking human physiology.

Human peripheral mononuclear cells (hPBMC) –transplanted humanized mice partially reproduce human immunity.

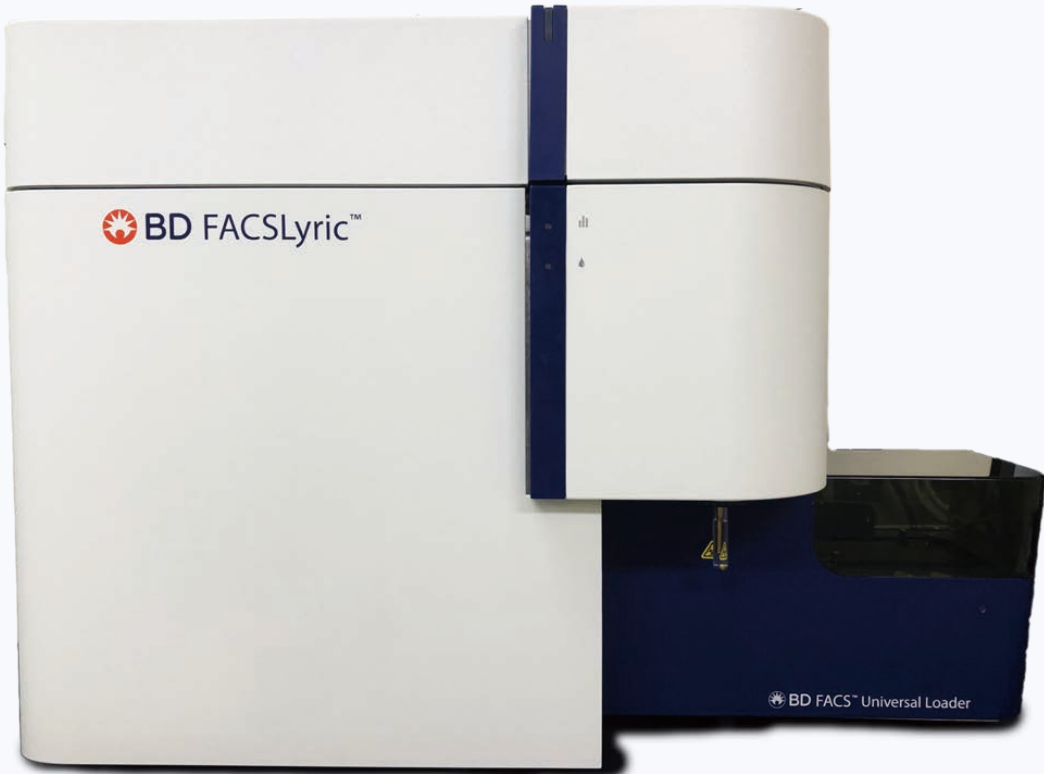
This study aimed to validate hPBMC transplantation, establish humanized mice and assess transplantation success and immune cell stability via flow cytometry.

Materials and Methods

- **Animals**
NOG-ΔMHC mice, ♂, 7 weeks old, n=10
- **Administration (intravenous)**
hPBMC, 5×10⁶ cells/body



- **Flow Cytometry**
Blood samples were analyzed with BD FACS Lyric
 - Blood samples were lysed using BD Pharm lyse™ lysing buffer.
 - Fc receptors of sample cells were blocked using anti-CD16/32 antibody.
 - After blocking, the samples were stained with antibodies listed in the table below.



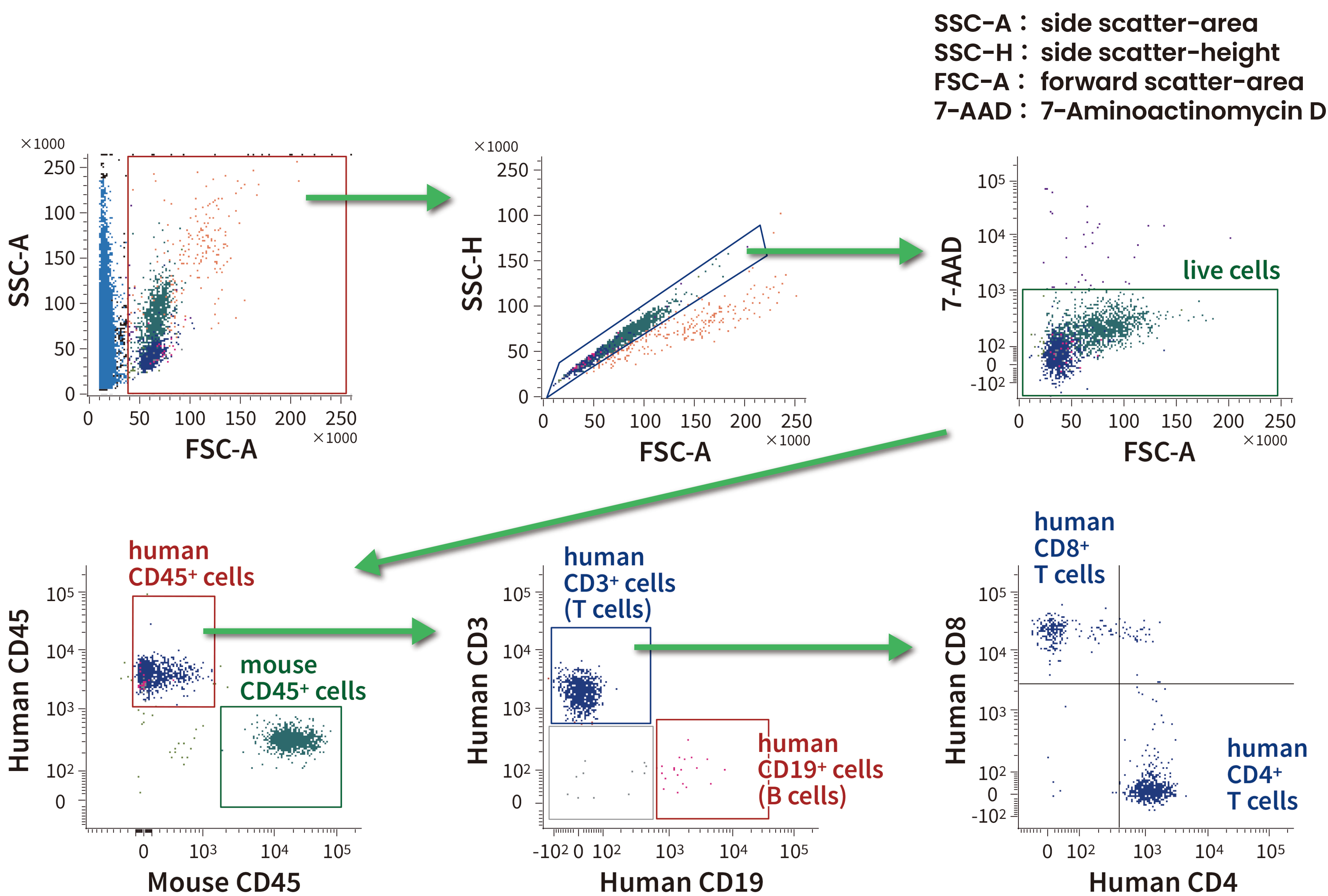
Color	Marker
PerCP-Cy5.5	7-AAD
BV510	Human CD45
APC-Cy7	Mouse CD45
FITC	Human CD3
PE	Human CD19
APC	Human CD8
BV421	Human CD4

Conclusion

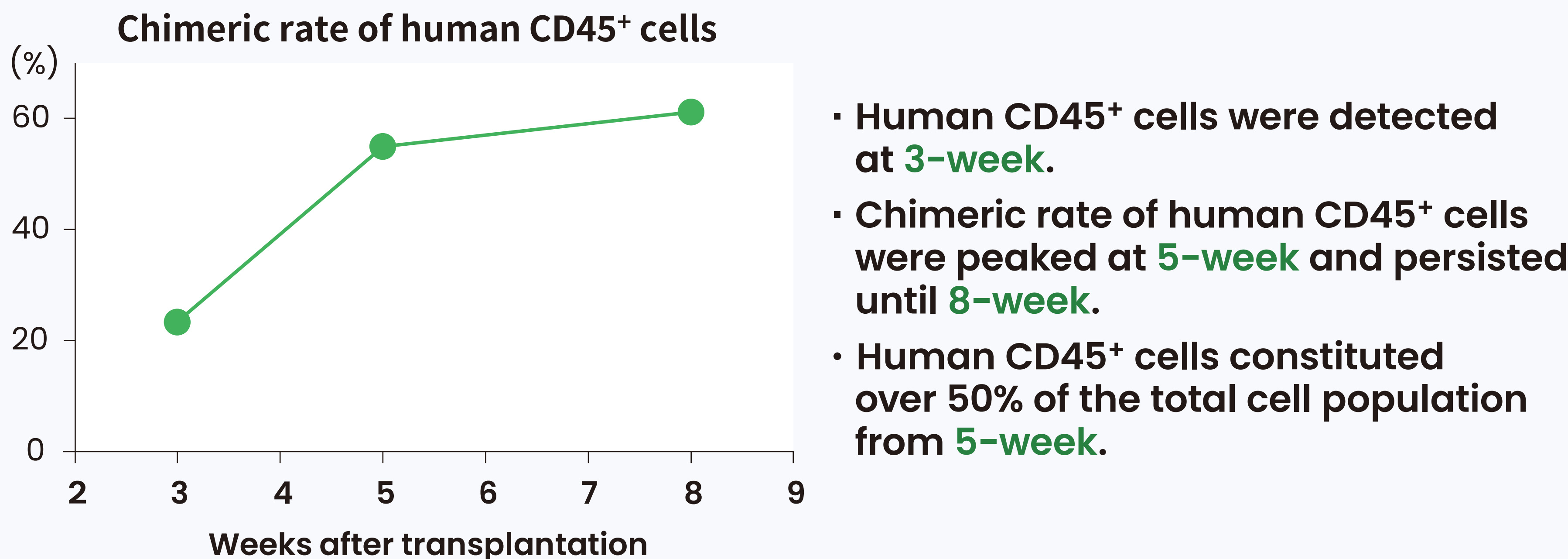
- We successfully generated hPBMC-transplanted humanized mice and evaluated human immune cell engraftment via flow cytometry.
- B cells were detected in several humanized mice at 3-week.
- Detection of B cells suggested possibility of Epstein-Barr virus infection.
- Epstein-Barr virus infection may influence immune responses and the tumor microenvironment, warranting consideration.

Results

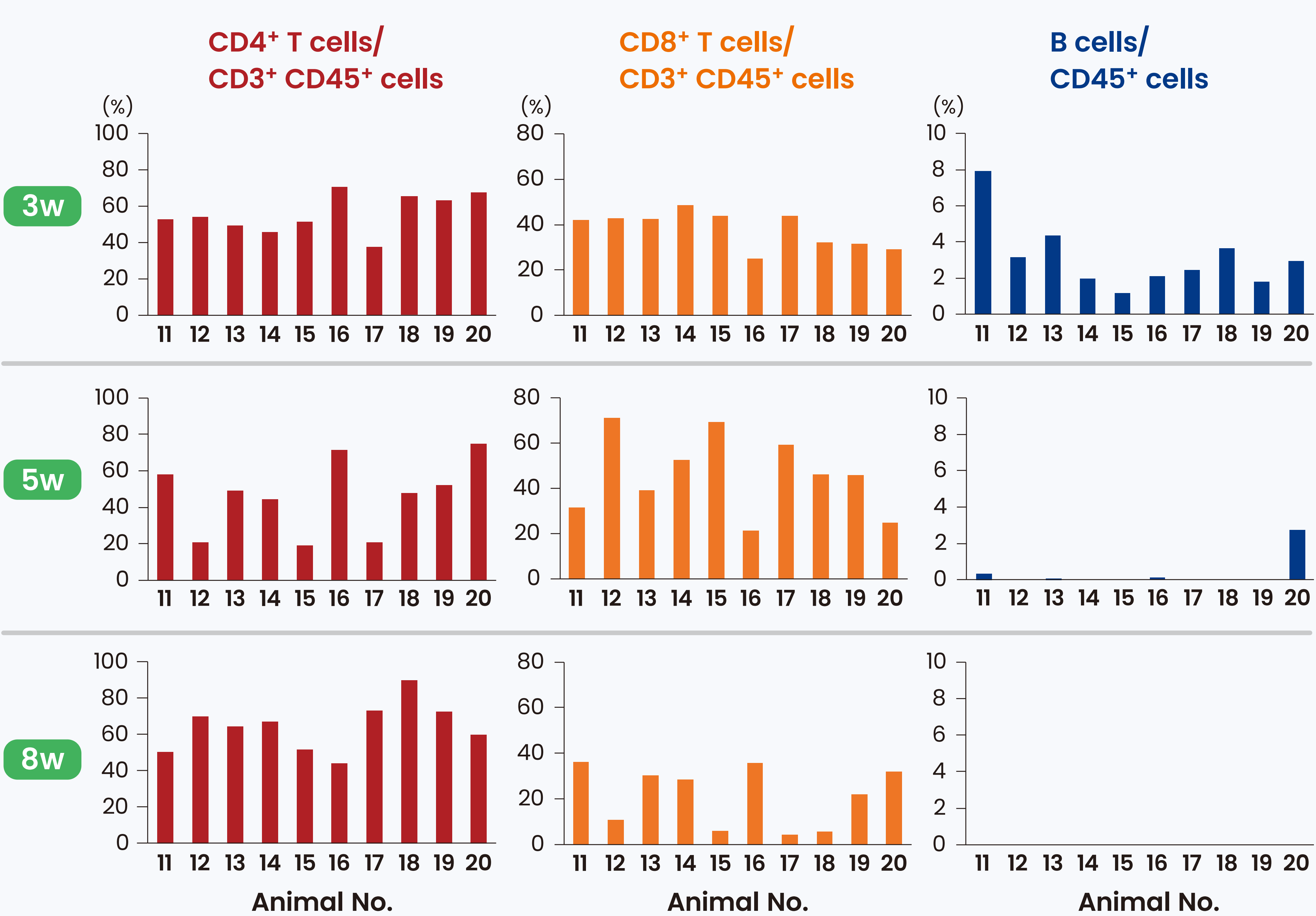
Human CD45⁺ cells were detected in blood of humanized mice



Chimeric rate of human CD45⁺ cells in humanized mice



Human T and B cells were also detected in blood of humanized mice



- Human T cells were detected in mice blood until 8-week.
- Human B cells were also detected in several mice at 3-week.

Acknowledgement

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