Supplementary materials and methods

Biospecimen collection

We extracted genomic DNA from the whole blood samples using the QIAsymphony DSP DNA Midi kit (Qiagen, Hilden, Germany). We measured the concentration of the genomic DNA by Qubit dsDNA BR Assay Kit (Thermo Fisher Scientific, Waltham, USA) and Qubit 3.0 Fluorometer (Thermo Fisher Scientific). After checking the DNA quality based on the DNA integrity number (DIN) score calculated using the Agilent 2000 TapeStation (Agilent Technologies, Waldbronn, Germany), the minimum quality of DNA had a DIN score over 8.9.

Cell Culture

ID8, a mouse ovarian surface epithelial cell line, was purchased from Merck Millipore Japan. (Millipore Cat# SCC145, RRID: CVCL_IU14). ID8 cells were cultured in High Glucose DMEM (Sigma Cat# D6429), 4% FBS (Sigma, St. Louis, Missouri, United States), 5 μg/ml insulin, 5 μg/ml transferrin, and five ng/ml sodium selenite (1xITS; Sigma Cat# 13146) and 100 U/ml penicillin/streptomycin (Lonza, Belgium) and incubated at 37°C in a 5% CO_2 atmosphere.

Immunohistochemistry (IHC)

On day 80 of the experiment, tumor tissue was collected from the peritoneal cavity of the mice, fixed with 10% formaldehyde, embedded in paraffin, and sectioned into 4-μm-thick sections. We incubated the slides with primary antibodies against CD4 (1:75 dilution, Cell Signaling, Cat# 25229), CD8 (1:300 dilution, Cell Signaling, Cat# 98941), B220 (1:3000 dilution, WuXi Biosciences, Cat# WTA1265). Before microscopic observation, we incubated sections with diaminobenzidine (DAB) chromogen and counterstained them with hematoxylin.

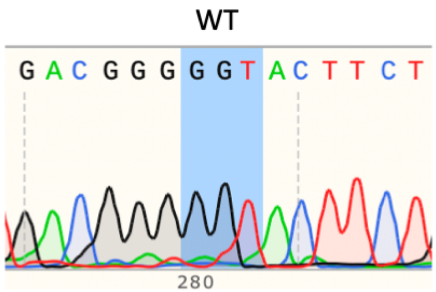
Supplementary figure S1

A

Human *PRDM1* (NP_001189.2)

Mouse *prdm1* (NP_031574.2)

B



Introduction of the variant equivalent to human rs2185379 to mice prdm1 by CRISPR/Cas9

(A) Nucleotide sequence of human PRDM1 gene and mouse prdm1 gene around guanine (shown in red character) of reference allele for rs2185379.

(B) The upper electropherogram shows the nucleotide sequence of wild-type (WT) C57BL/6 mice, and the first nucleotide of the highlighted codon was guanine (black wave) in both alleles. The bottom electropherogram shows the nucleotide sequence of C57BL/6 mice in which genome editing by CRISPR/Cas9 altered the first nucleotide of the identical codon to adenine (green wave) in one allele.