BALB/c-Pdcd1 KO

Strain Name: BALB/cJGpt-*Pdcd1*^{em1Cin}/Gpt

Strain Type: Knock-out

Strain ID: T009401

Background: BALB/cJGpt

Description

PDCD1(Programmed cell death protein 1, PD1), a member of the extended CD28/CTLA-4 family of T cell regulators, is involved in the regulation of T-cell function during immunity and tolerance.

PD1 has two ligands, PD-L1 and PD-L2, which are members of the B7 family. PD-L1 is highly expressed in several cancers. The expression of PDL1 has been correlated with the progression and poor prognosis of certain types of human malignancies. Tumor-induced PDL1 appears to utilize multiple mechanisms to facilitate the evasion of host immune surveillance, including the promotion of T cell anergy, exhaustion, unresponsiveness and apoptosis, inducing the expansion of Tregs as well as enhancing tumor-intrinsic resistance to killing and apoptosis.PD1 inhibitors, as a new class of drugs that block PD1, activate the immune system to attack tumors and are used to treat certain types of cancer.

BALB/c background mouse can serve as a host and transplant almost all popular murine tumor cell lines that currently available (e.g., CT26,4T1, H22, Renca).

GemPharmatech use gene editing technology to developed BALB/c-Pdcd1 KO mouse model and own property right. This model is an ideal animal model for studying the *Pdcd1* gene.

Strategy

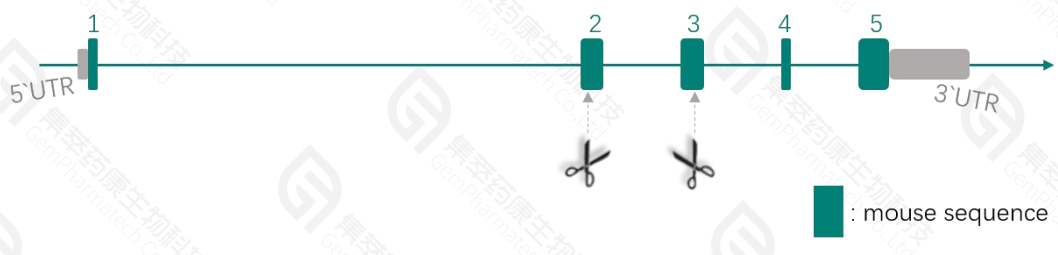

Fig.1 Schematic diagram of strategy in BALB/c-Pdcd1 KO mice.

Application

1. Immune system related research

Data Support

No Data

References

1. Flemming, A. "Cancer: Pd1 Makes Waves in Anticancer Immunotherapy." *Nat Rev Drug Discov* 11 8 (2012): 601.

2. Migden, M. R., et al. "Pd-1 Blockade with Cemiplimab in Advanced Cutaneous Squamous-Cell Carcinoma." *N Engl J Med* 379 4 (2018): 341-51.

3. Zhou, Q., et al. "Coexpression of Tim-3 and Pd-1 Identifies a Cd8+ T-Cell Exhaustion Phenotype in Mice with Disseminated Acute Myelogenous Leukemia." *Blood* 117 17 (2011): 4501-10.