Figure S1. Effects of MUC1 on tumour sizes and weights in CT26- and SW480-tumor bearing mice. BALB/c mice were injected subcutaneously with $1 \times 10^{6} \mathrm{CT} 26 /$ vector or $\mathrm{CT} 26 / \mathrm{MUC1}$ tumor cells. (A) Tumor sizes ( $\mathrm{n}=10$ ) were recorded. Some tumor-bearing mice ( $n=4$ ) were sacrificed on day 26 after tumor cell inoculation, (B) images of representative tumors were captured and (C) MUC1 expression on CT26 tumor cells was measured by flow cytometry. Data are representative of four replicate experiments. $\mathrm{Nu} / \mathrm{nu}$ mice were injected subcutaneously with $2 \times 10^{6}$ SW480/vector or SW480/MUC1 tumor cells. (D) Tumor sizes ( $\mathrm{n}=7$ ) were recorded. Some tumor-bearing mice $(\mathrm{n}=4)$ were sacrificed when tumor diameters reached 12 mm , (E) images of representative tumors were captured and (F) MUC1 expression on SW480 tumor cells was measured by flow cytometry. Data are representative of four replicate experiments. The body weights of (G) CT26 tumor-bearing BALB/c mice, (H) CT26 tumor-bearing nu/nu mice and (I) SW480 tumor-bearing nu/nu mice were also recorded. Error bars represent the standard error of the mean. ${ }^{* *} \mathrm{P}<0.01$ and * $\mathrm{P}<0.05$ vs. model control. MUC1, mucin1.
A




I


F


G


H


Figure S2. Gating strategy of immune cells. The gating strategy of tumour-infiltrating lymphocytes from tumour tissues. SSC, side scatter; FSC, forward scatter; F4/80, (EMR1), mucin-like receptor 1; Gr-1, Ly-6G/Ly-6C.


Figure S3. $\alpha$ PDL1 therapy inhibits the growth of tumour cells in tumour-bearing mice. BALB/c mice were injected subcutaneously with $1 \times 10^{6}$ CT26/mucin1 tumor cells. After 7 days, tumor diameters reached 3-4 mm. The mice were injected four times at 3-day intervals with isotype control mouse antibodies or an anti-PDL1 antibody at the indicated doses. (A) Tumor sizes were recorded ( $n=7$ ). (B) Some mice ( $n=8$ ) were sacrificed on day 10 after the end of PD1 antibody treatment and images of representative tumors were captured. (C) Body weight of tumor-bearing mice was also recorded ( $\mathrm{n}=7$ ). ${ }^{*} \mathrm{P}<0.05$ and ${ }^{* *} \mathrm{P}<0.01$ vs. ISO. PDL1, programmed death ligand; ISO, isotype control.


