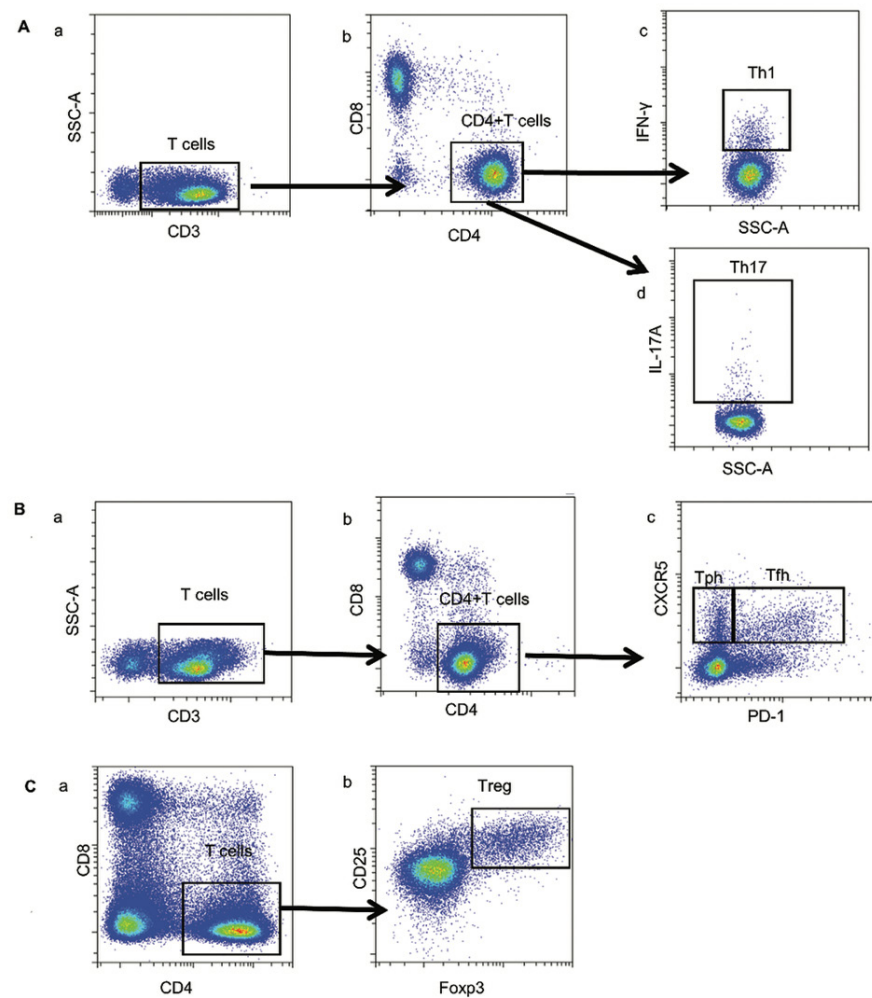**Supplementary Fig. S1.** The body weight (**A**) and fasting blood glucose (**B**) of mice were measured every 3 weeks.

Supplementary Fig. S2. Phenotypic characterisation of T cell subsets by flow cytometry.
(**A**) Panel a: T cell was identified as CD3+ subset within lymphocytes. Panel b: CD4+ CD8-T cells were then gated. Panel c, d: Th1 cells were identified as IFN-γ+ (Th1) and IL-17A+ (Th17) within CD3+CD4+CD8-group.
(**B**) Panel a: T cell was identified as CD3+ subset within lymphocytes. Panel b: CD4+ CD8-T cells were then gated. Panel c: Tfh cells were determined as CD3+CD4+CD8-CXCR5+PD-1+ cells; Tph cells were determined as CD3+CD4+CXCR5-PD-1+ cells.
(**C**) Panel a: T cell was identified as CD4+CD8-subset within lymphocytes. Panel b: Treg cells was identified as CD25+ Foxp3+ within CD4+CD8-group.

Lymphocyte subsets	Phenotypic characterisation
T cell	CD4+CD3+CD8-/CD4+CD8-
Th1	IFN-γ+CD4+CD3+CD8-
Th17	IL-17A+CD4+CD3+CD8-
Tfh	PD-1+CXCR5 +CD4+CD3+CD8-
Treg	CD25+Foxp3+CD4+CD8-

Th: helper T cells; Tfh: follicular helper T cells; Treg: regulatory T cells; IFN-γ: human interferon-γ; PD-1: programmed cell death 1; CXCR5: C-X-C chemokine receptor type 5; Foxp3: Forkhead box protein P3.
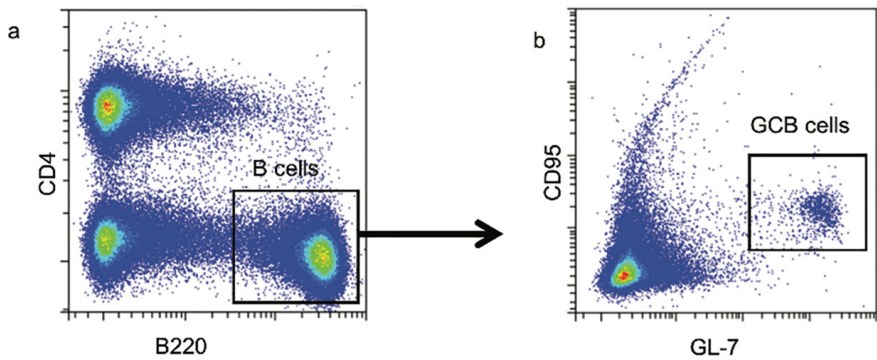
Lymphocyte subsets	Phenotypic characterisation
B cells	B220+CD4-
Germinal centre B (GCB) cells	GL7+CD95+B220+CD4-

GCB: germinal centre B cells.

Supplementary Fig. S3. Phenotypic characterisation of B cell subsets by flow cytometry in mice. Panel a: B cell is identified as B220+CD4- subset within lymphocytes. Panel b: GCB cells were identified asGL7+CD95+ within B220+CD4- group.

Supplementary Table S1. Antibodies used in flow cytometric analysis.

Antibody	Parameter	Reactivity	Validation	Clone
CD3	PEcy7	mouse	Biolegend	17A2
CD3	Percp-cy5.5	mouse	Biolegend	145-2C11
CD4	APC-CY7	mouse	BD Biosciences	GK1.5
CD4	BV650	mouse	Biolegend	RM4-5
CD4	BV421	mouse	Biolegend	GK1.5
CD8	APC/Fire750	mouse	Biolegend	53-6.7
CD8	FITC	mouse	BD Biosciences	53-6.7
IL-17A	BV421	mouse	Biolegend	TC11-18H10.1
IFN-γ	BV711	mouse	Biolegend	XMG1.2
CD95	PE	mouse	Biolegend	SA376H8
B220	PE-CY5.5	mouse	Biolegend	RA3-6B2
GL-7	AF488	mouse	Biolegend	GL7
CXCR5	PE	mouse	Biolegend	L138D7
PD-1	APC	mouse	Biolegend	29F.1A12
CD25	PE-cy7	mouse	Biolegend	3C7
Foxp3	PECF594	mouse	BD Biosciences	MF23