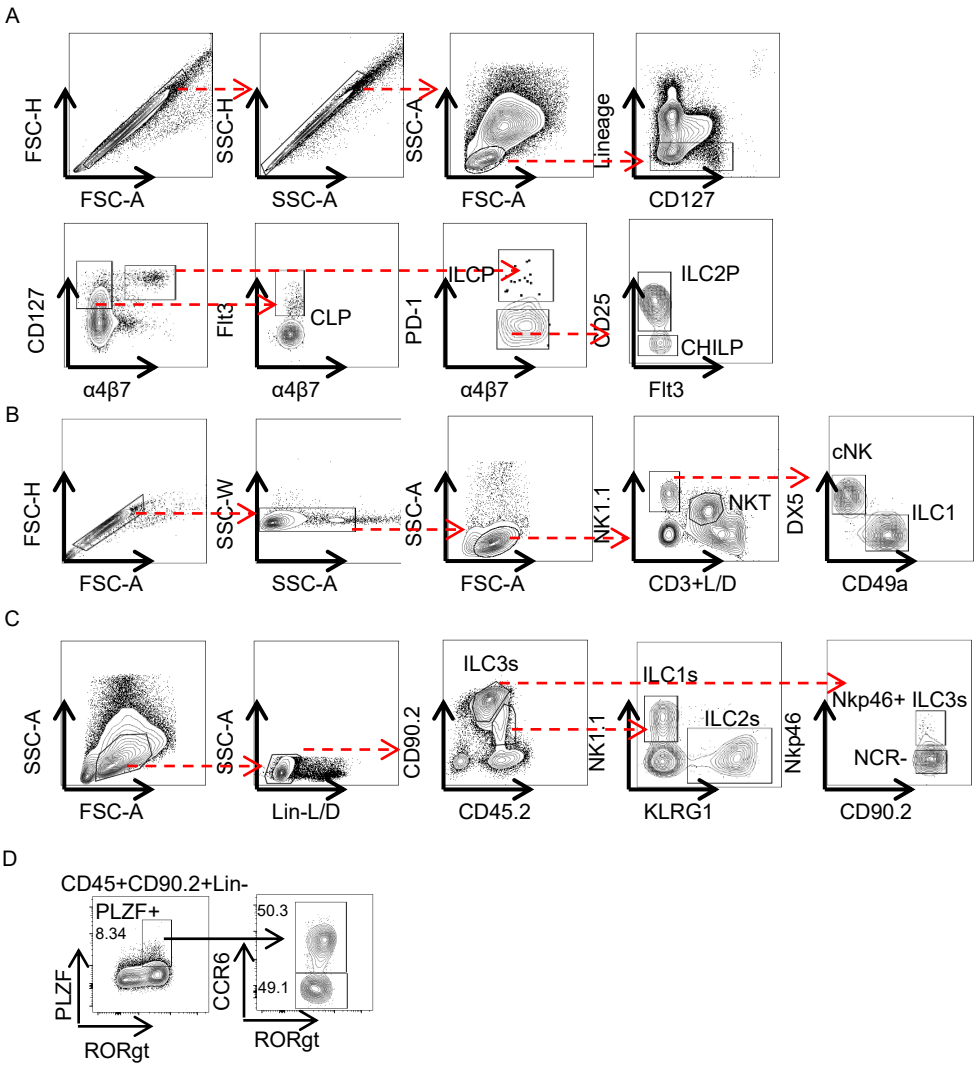
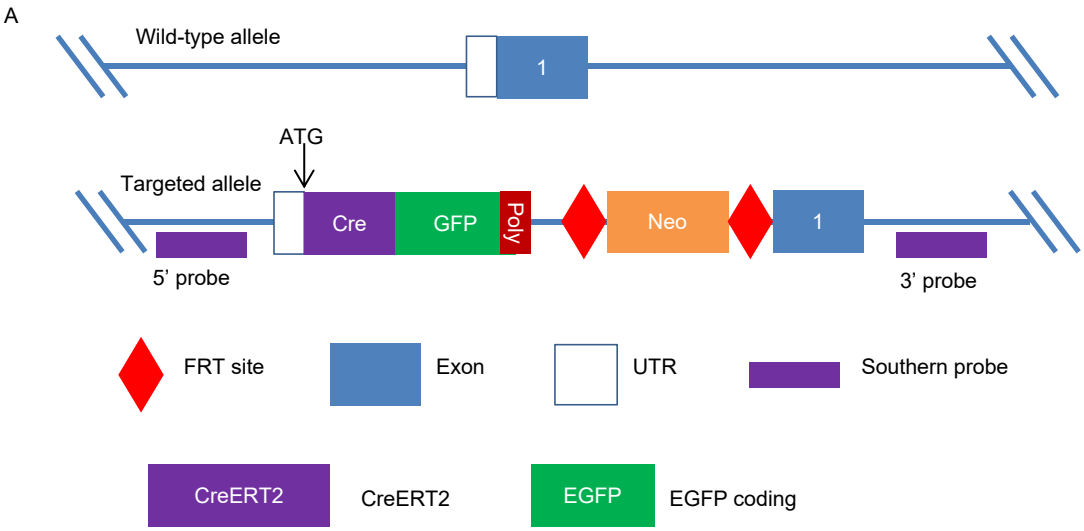
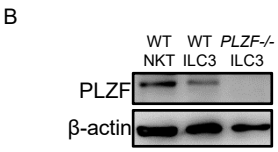
Supplementary Figure 1 Flow cytometry gating strategy

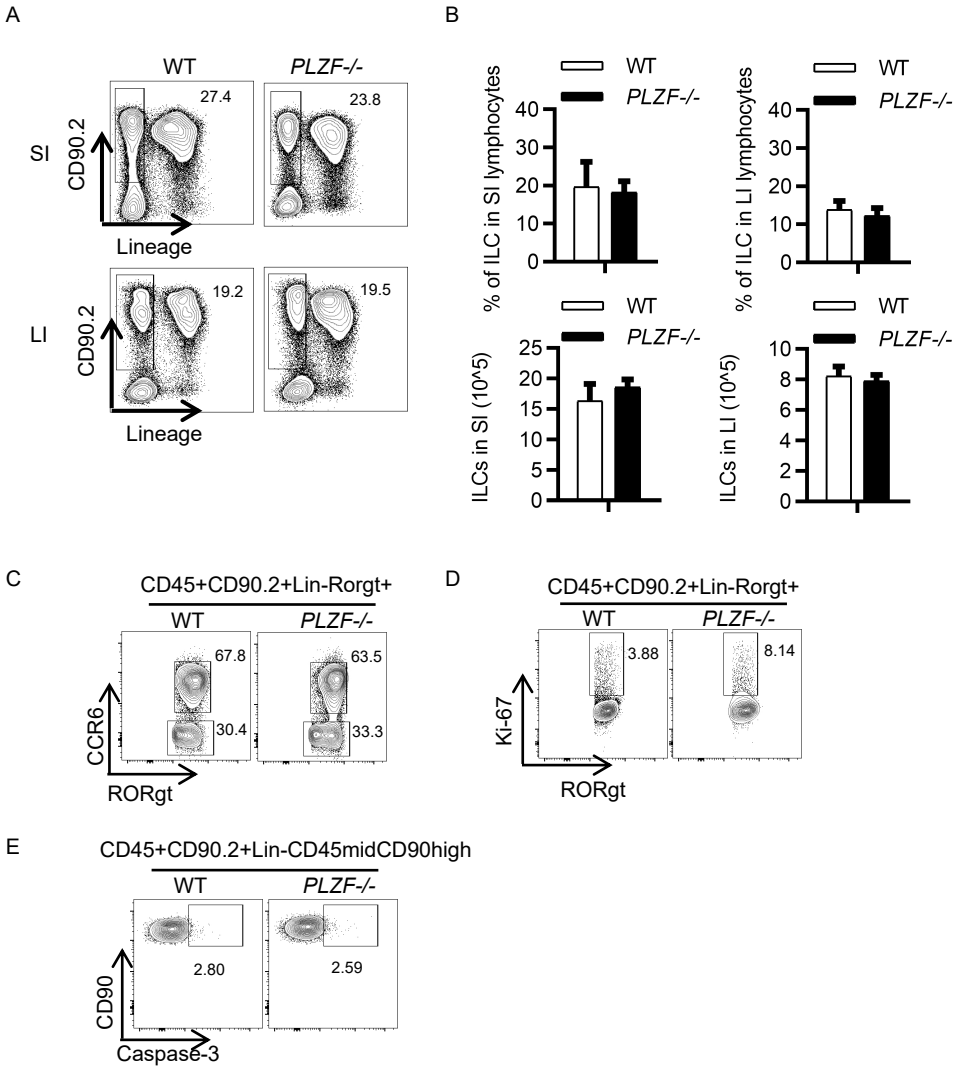


Supplementary Figure 2 Generation of PLZF Cre-ERT2/EGFP knock-in mice.

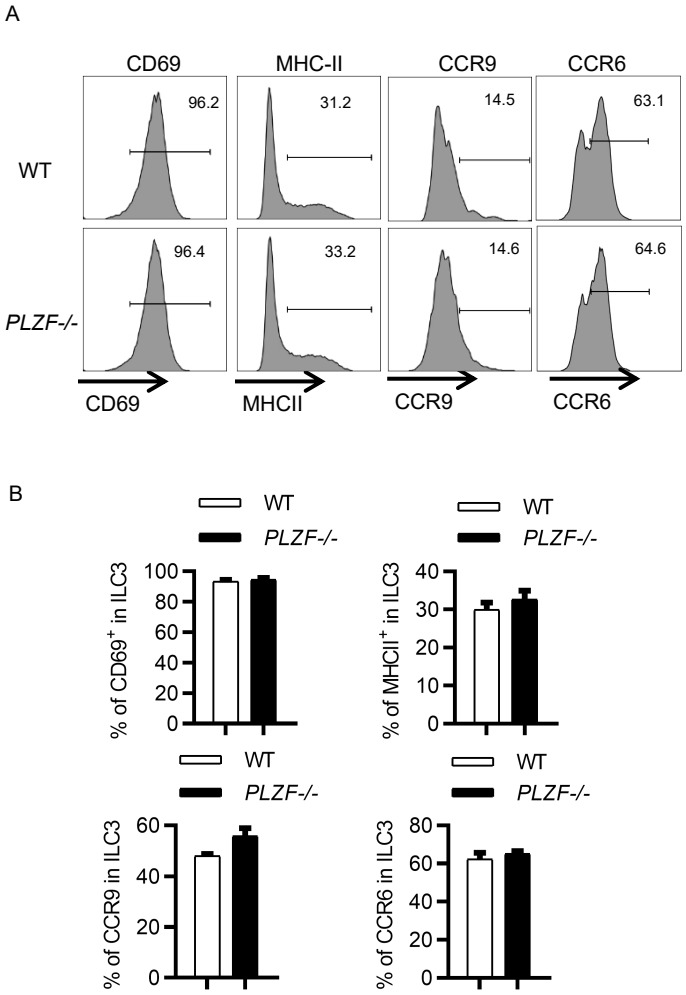




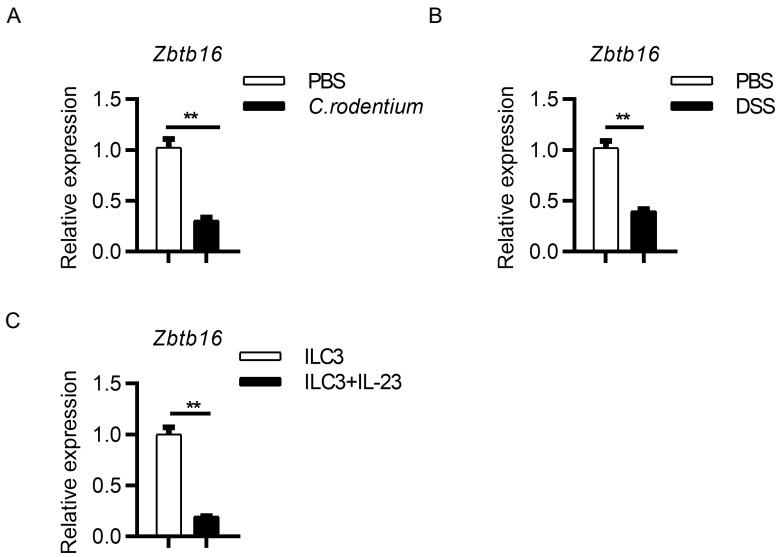
Supplementary Figure 3 PLZF deficiency does not affect the number of total ILCs.



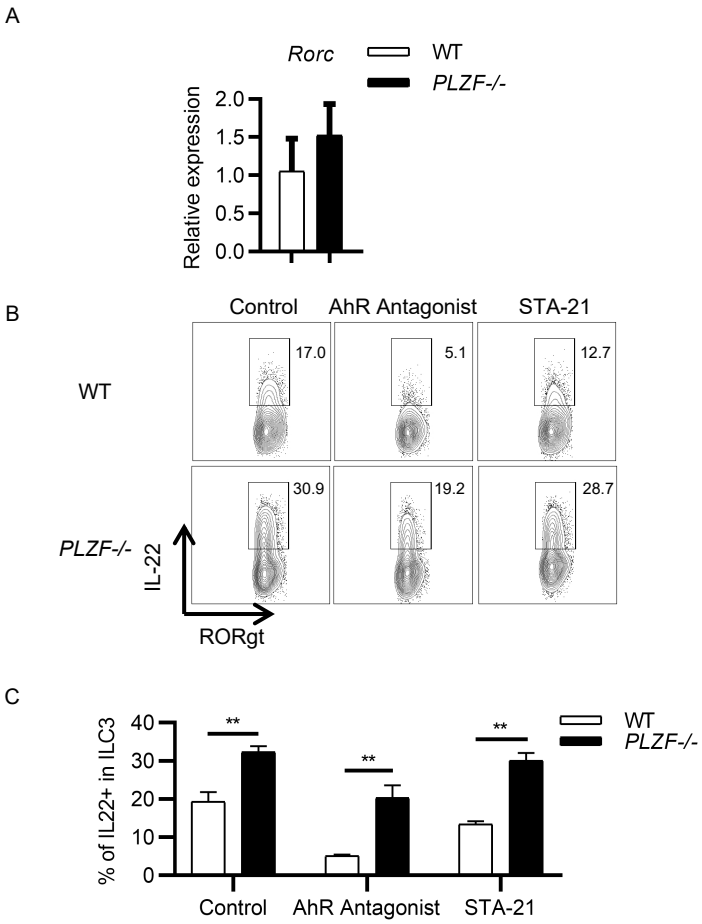
Supplementary Figure 4 Expression of ILC3s activation maker and homing receptors.



Supplementary Figure 5 The *Zbtb16* gene expression is downregulated in ILC3s under disease conditions.



Supplementary Figure 6 IL-22 expression regulated by PLZF is not dependent on Rorc, AhR, and Stat3.



Supplementary Figure 7 PLZF specific binding motif

PLZF specific
binding motif

Table 1 Antibodies for flow cytometry staining

Antibody	Clone	Vendor
CD16/32	93	biolegend
CD19	6D5	biolegend
CD11b	M1/70	biolegend
α4β7	DAT1C32	biolegend
Live/Dead	NA	lifetech
CD90.2	53-2.1	ebioscience
GATA3	TWAT	ebioscience
C-kit	2B8	biolegend
CD25	PC61.5	ebioscience
NCR	29A1.4	biolegend
DX5	DX5	BD
CD45.1	A20	biolegend
IL-13	eBio13A	ebioscience
SiglecF	E50-2440，	BD
IL-22	Poly5164	biolegend
IL-17A	eBio1787	ebioscience
IFN-γ	XMG1.2	ebioscience
GM-CSF	MP1-22E9	BD
CCR6	140706	BD
Ki67	SolA15	Ebioscience
CD3	145-2c11	biolegend
Gr-1	RB6-8C5	biolegend
CD127	A7R34	biolegend
PD-1	RMP1-30	ebioscience
CD45.2	104	biolegend
RORγt	AFKJS-9	ebioscience
NK1.1	PK136	ebioscience
Sca-1	D7	biolegend
IL-5	TRFK5	ebioscience
Flt3	A2F10.1	BD
CD49a	Ha31/8	BD
T-bet	eBio-4B10	ebioscience
CD11c	N418，	biolegend
CD11b	M1/70	biolegend
CD69	H1.2F3	ebioscience
DEVD-FMK	9499-100	BioVision
PLZF	R17-809	BD
MHCII	M5/114.15.2	BD

Table 2 The qPCR primers

Primer	Sequence(5'to3')
Zbtb16-F	CTGGGACTTTGTGCGATGTG
Zbtb16-R	CGGTGGAAGAGGATCTCAAACA
Gapdh-F	AGGTCGGTGTGAACGGATTTG
Gapdh-R	TGTAGACCATGTAGTTGAGGTCA
m*Il22*-F	TCAGTGCTAAGGATCAGTGCT
m*Il22*-R	TGATTGCTGAGTTTGGTCAGG
m*RegIIIγ*-F	ATGGCTCCTATTGCTATGCC
m*RegIIIγ*-R	GATGTCCTGAGGGCCTCTT
m*RegIIIβ*-F	ATGGCTCCTACTGCTATGCC
m*RegIIIβ*-R	GTGTCCTCCAGGCCTCTTT
m*Il22r*-F	GCTGGACTCCCTTGTGTGT
m*Il22r*-R	CACATGGCCTCAGTCTCAA
Rorc-F	CCGCTGAGAGGGCTTCAC
Rorc-R	TGCAGGAGTAGGCCACATTACA

SourceDataF1E