Figure 1

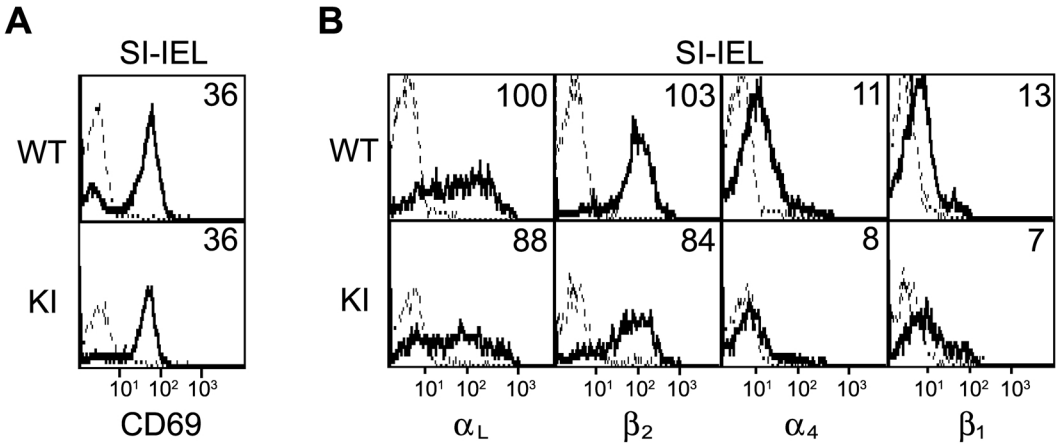
A
SI-IEL
WT
KI
36
36
10^1 10^2 10^3
CD69
B
SI-IEL
WT
KI
100
103
11
13
88
84
8
7
10^1 10^2 10^3
α_L
β_2
α_4
β_1

Figure S2

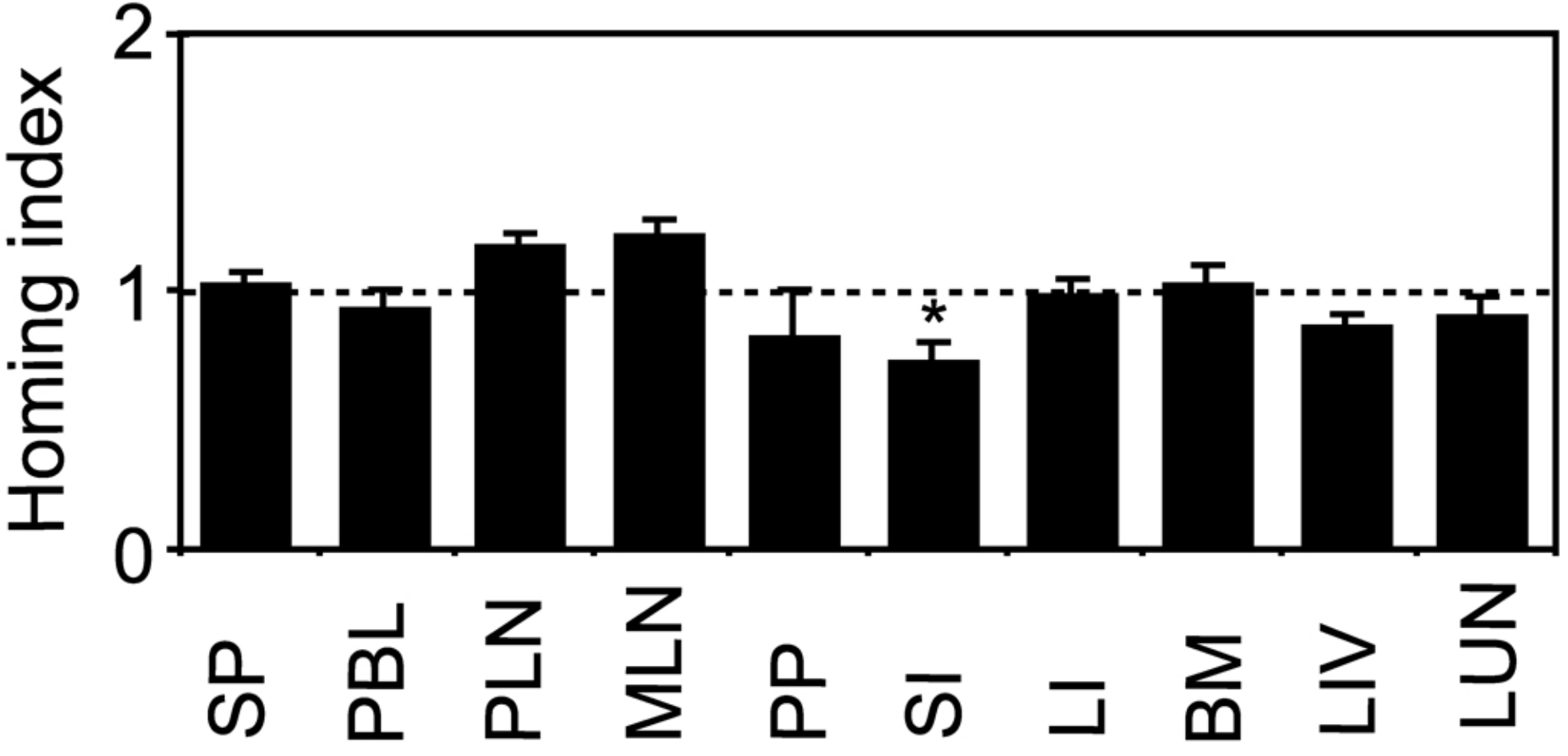

Figure S3

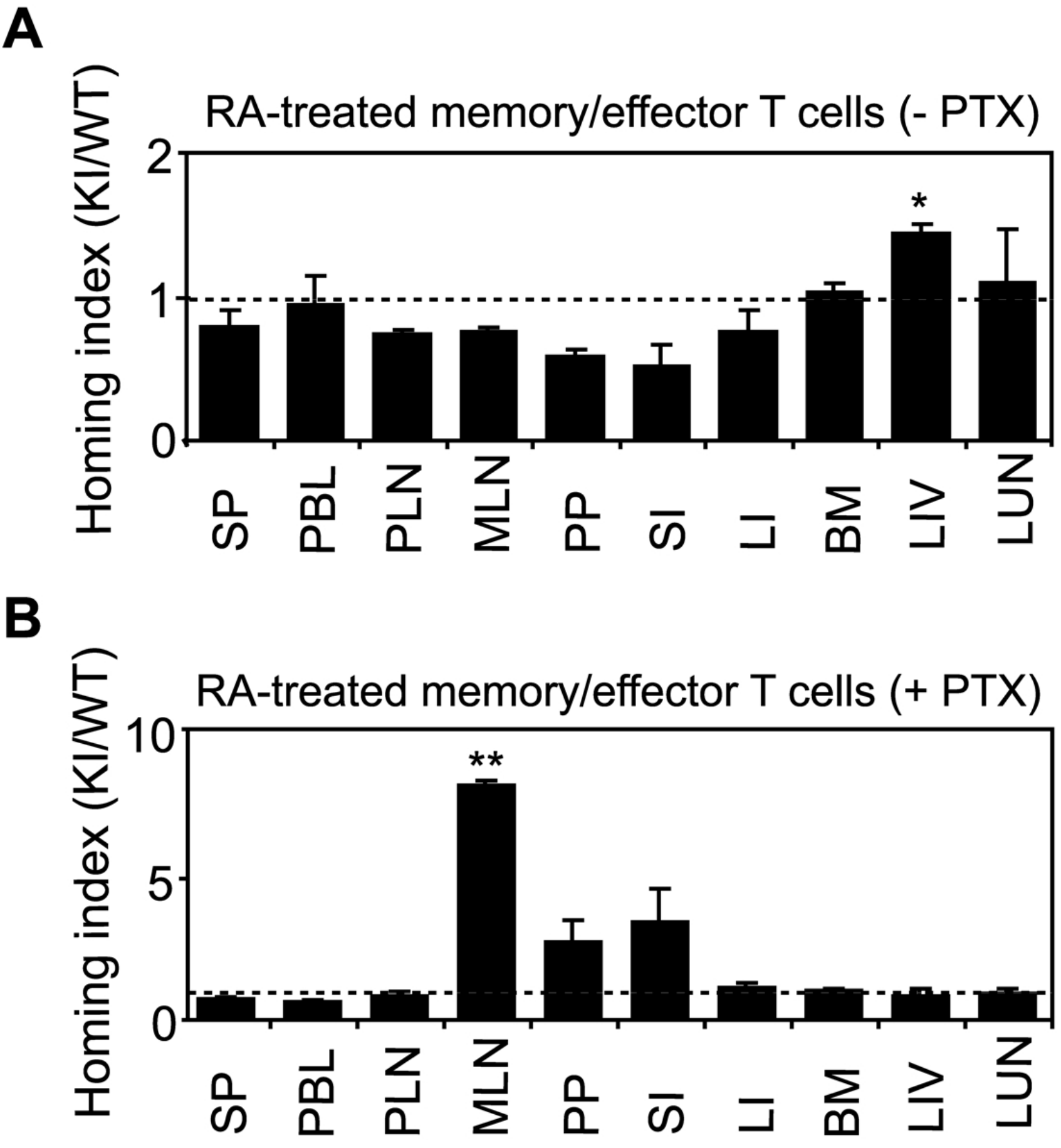
A
RA-treated memory/effector T cells (- PTX)
Homing index (KI/WT)
2
1
0
*
SP
PBL
PLN
MLN
PP
SI
LI
BM
LIV
LUN
B
RA-treated memory/effector T cells (+ PTX)
Homing index (KI/WT)
10
5
0
**
SP
PBL
PLN
MLN
PP
SI
LI
BM
LIV
LUN

Figure S1. Expression of cell surface receptors on lymphocytes isolated from intraepithelial cell compartments of the small intestine (SI-IEL)

Comparable expression levels of CD69 (**A**) and α_L, β_2, α_4, and β_1 integrins (**B**) were observed in SI-IEL lymphocytes from wild-type (WT) and β_7 (D146A) (KI) mice. Reduced expression of the α_4 integrin was likely to be due to the reduction in $\alpha_4\beta_7$ expression.

Figure S2. Competitive in vivo homing assay using KI and $\beta_7^{+/-}$ splenocytes

Equal numbers (2×10^7) of fluorescently labeled KI and $\beta_7^{+/-}$ cells were mixed and injected into C57BL/6J-CD45.1$^+$ congenic mice. The homing indices were determined 18 h after injection. Data are expressed as the mean values ± SEM of three independent experiments. *, $P < 0.05$, versus SP.

Figure S3. Competitive in vivo homing assay using retinoic acid (RA)-treated memory/effector T-cells

RA-treated memory/effector T-cells were prepared as describe in Methods. Competitive homing assay to compare β_7 (D146A) (KI) and wild-type (WT) RA-treated memory/effector T-cells was performed as described in Methods. Cells were untreated (**A**) or treated (**B**) with PTX prior to injection into recipient mice.

Movie 1. Representative videos of T-cells migrating on MAdCAM-1 substrates.

Live cell imaging of retinoic acid-treated memory/effector T-cells from WT (left) and β_7 (D146A) mice (right) on MAdCAM-1/CXCL12 substrates was performed at 37°C with a culture dish system for live-cell microscopy as described in Methods.