# Supplemental material

**Dimitrov et al., https://doi.org/10.1084/jem.20181169**

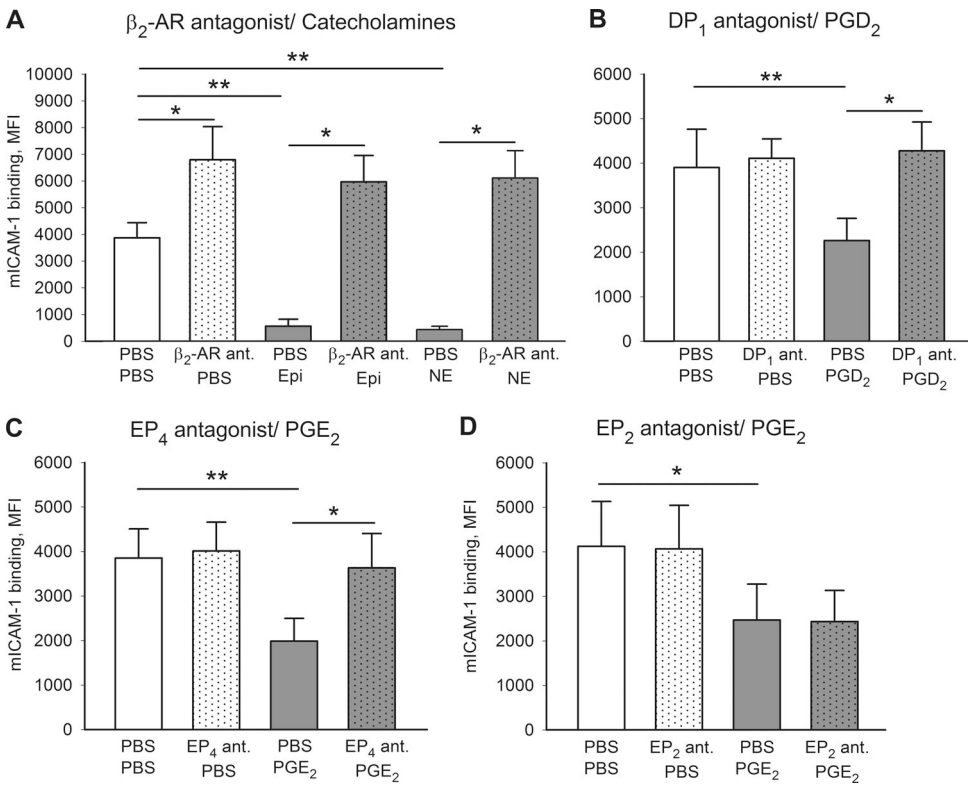


Figure S1. **$\beta_2$-AR, $DP_1$, and $EP_4$ antagonists reverse the inhibitory effect of catecholamines (epinephrine [Epi] and norepinephrine [NE]), $PGD_2$, and $PGE_2$, respectively, on TCR-induced $\beta_2$-integrin activation on CMV-specific $CD8^+$ T cells. (A–D)** Whole blood cells were preincubated in the presence or absence of ICI-118,551 ($\beta_2$-AR blocker; A), MK-0524 ($DP_1$ receptor blocker; B), ONO-AE3-208 ($EP_4$ receptor blocker; C), and PF-04418948 ($EP_2$ receptor blocker; D) for 5 min, before incubation with epinephrine ($10^{-9}$ M) or norepinephrine ($10^{-7}$ M; A), $PGD_2$ (1,000 pg/ml; B), and $PGE_2$ (1,000 pg/ml; C and D) according to the indicated scheme in the figure for 5 min, followed by staining with CMV A2-NLV/PE and mICAM-1. Means ± SEM of the MFI of mICAM-1 binding are shown. Note that the addition of ICI-118,551 alone increases integrin activation, reflecting the blockade of endogenous catecholamines. Significance is indicated for pairwise comparison between treatments using paired *t* tests. $n$ = 3–4; *, $P < 0.05$; **, $P < 0.01$.

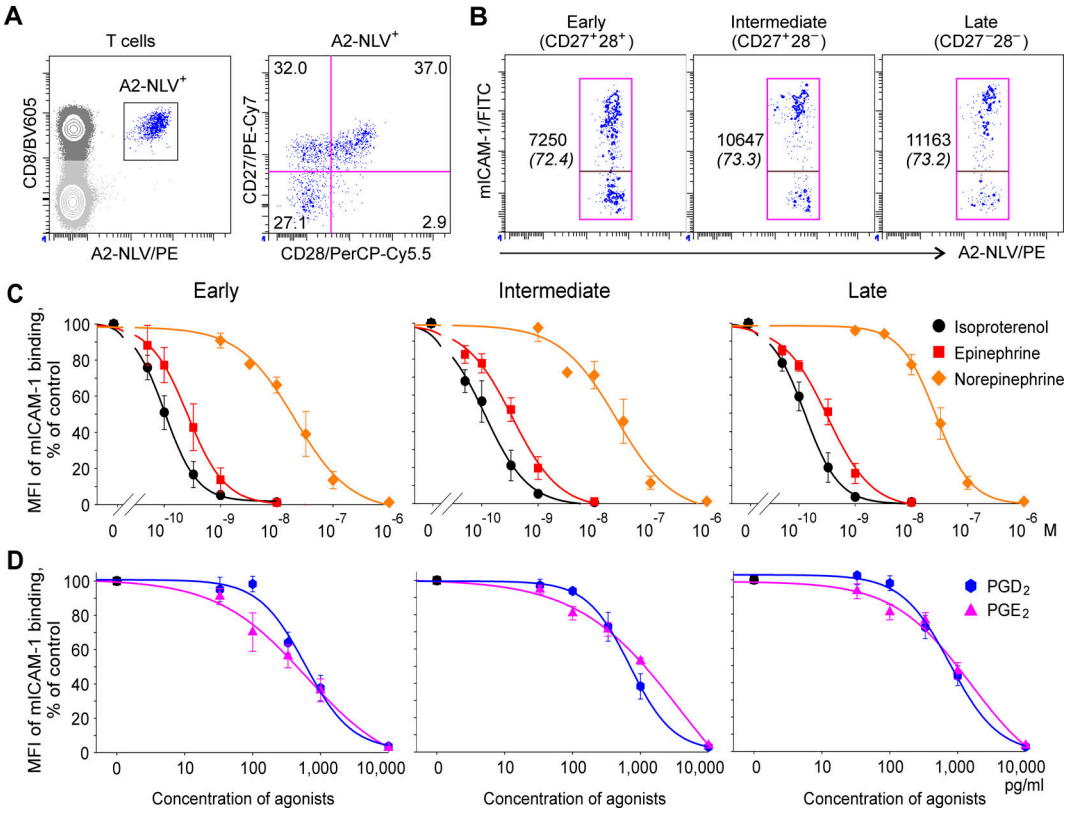


Figure S2. **Effect of $G\alpha_s$-coupled receptor agonists on pMHC-induced $\beta_2$-integrin activation on CMV-specific $CD8^+$ T cell subpopulations.** Whole blood cells from the same donors as in Fig. 2 were preincubated in the presence or absence of $G\alpha_s$-coupled receptor agonists at the indicated concentrations for 5 min followed by staining with CMV A2-NLV/PE multimers and mICAM-1 for 5 min at 37°C. **(A)** Staining with CD27 and CD28 antibodies was used to define subpopulations of $pMHC^+$ $CD8^+$ T cells. Density plots from a representative participant are shown. Numbers indicate the frequency among CMV-specific $CD8^+$ T cells. **(B)** Examples of ICAM-1 staining on early ($CD27^+CD28^+$, left), intermediate ($CD27^+CD28^-$, middle), and late ($CD27^-CD28^-$, right) differentiated CMV-specific $CD8^+$ T cells. Numbers indicate the MFI of mICAM-1 binding on CMV-specific $CD8^+$ T cells, and italic numbers in brackets indicate the frequency of $mICAM\text{-}1^+$ cells among the respective CMV-specific $CD8^+$ T cell subsets. **(C and D)** Cells were preincubated in the presence or absence of the indicated substance at the indicated concentrations for 5 min followed by staining with CMV A2-NLV/PE and mICAM-1. Means ± SEM of the MFI of mICAM-1 binding are shown for the different agonists as percentage of the control (i.e., the sample without $G\alpha_s$-coupled receptor agonists, which was set to 100%). The fitted standard curves were calculated by nonlinear regression (see Table 1 for $EC_{50}$ values). $n = 5$.