

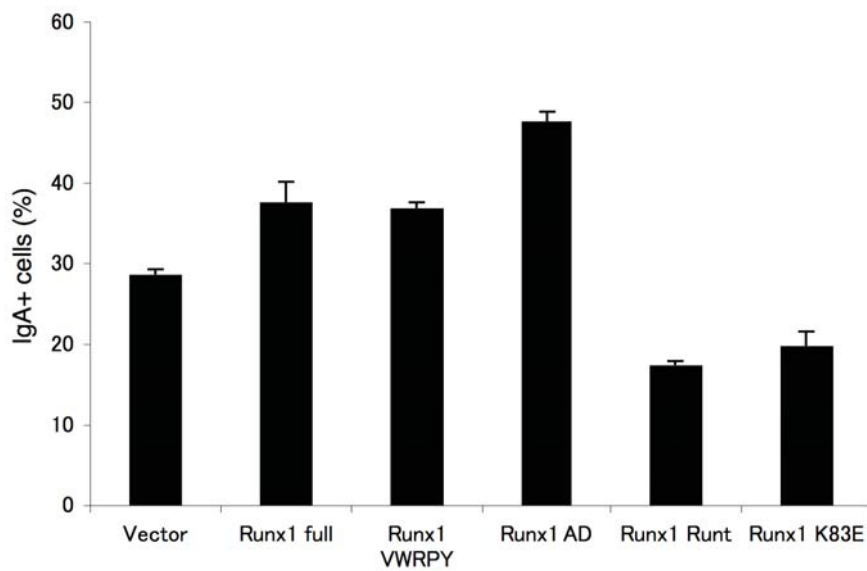
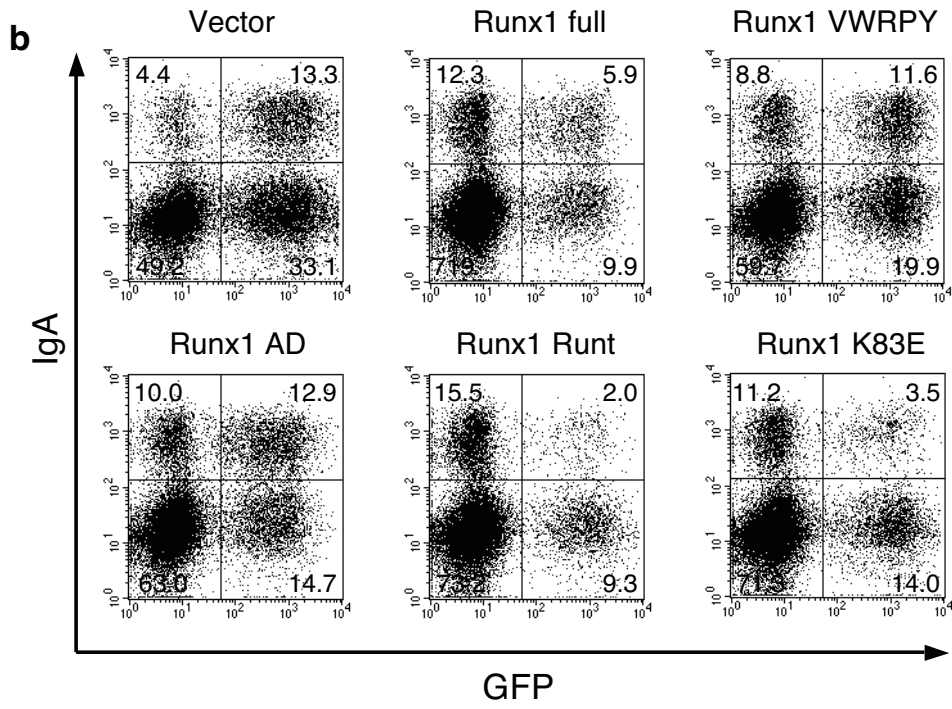
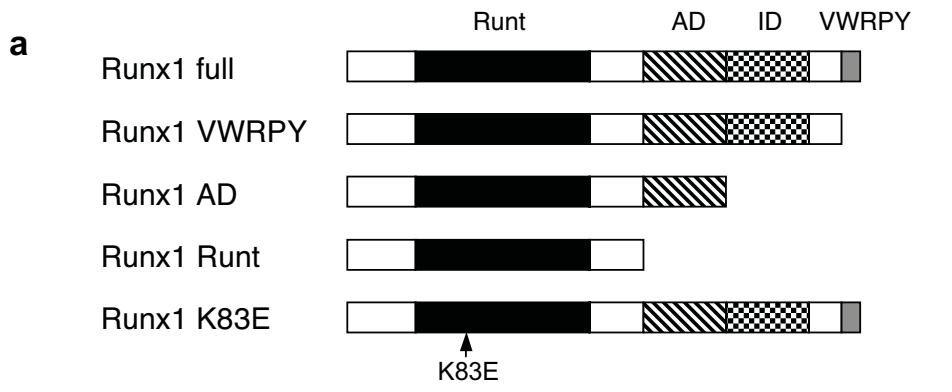
Legends to Supplemental Figures

Supplemental Figure 1 Runx acts as a positive regulator of IgA CSR. **(a)** Schematic diagram of wild-type and various mutants of Runx1 constructs. **(b, upper panel)** IgA CSR and retrovirus infected cells were analyzed by flow cytometry for surface expressions of IgA and GFP after culturing for 5 days. The respective relative numbers are indicated as percentages of individual boxes. **(b, lower panel)** Percentages of IgA⁺ cells within GFP⁺ cells are shown, because retrovirus-infected cells have the capacity to switch more easily than uninfected cells.

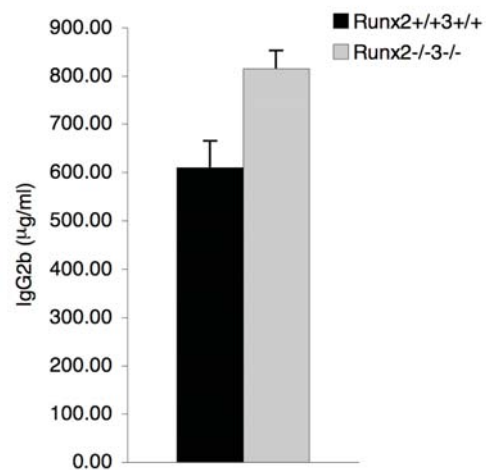
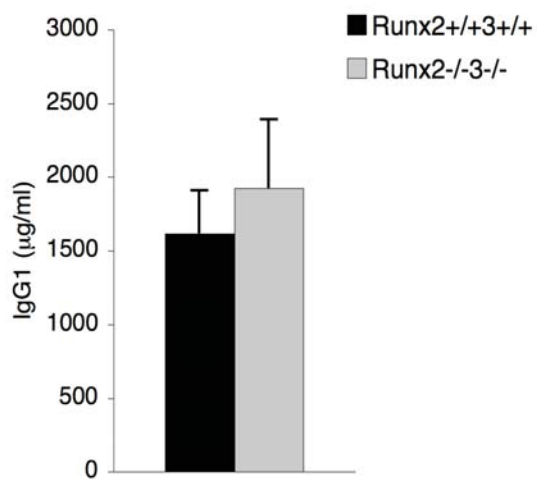
Supplemental Figure 2 IgG1 or IgG2b production are not perturbed in Runx2^{-/-}Runx3^{-/-} mice. IgG1 or IgG2b levels in sera from individual mice were determined by ELISA.

Supplemental Figure 3 RAR α and RAR β agonist stimulate IgA CSR by inducing α GLT. **(a)** Splenic B cells were cultured with LPS (10 μ g/ml), APRIL (180 ng/ml), IL-5 (5 ng/ml), TGF β 1 (1 ng/ml) and RA (10 nM) in the presence or absence of 10 nM RAR/PPAR antagonists (Ro41-5253; RAR α antagonist, LE135; RAR β antagonist, GW6471; PPAR α antagonist and GW9662; PPAR γ antagonist). After culturing for 5 days, IgA CSR were estimated by monitoring surface expressions of IgA. Percentages of IgA⁺ cells are shown. **(b)** Splenic B cells were cultured with LPS (10 μ g/ml), APRIL (180 ng/ml), IL-5 (5 ng/ml), TGF β 1 (1 ng/ml) in the presence or absence of RA (10 nM) or RAR α / β specific agonists, Am80 (10 nM). After culturing for 5 days, IgA CSR was estimated by monitoring surface expressions of IgA. Percentages of IgA⁺ cells are shown. **(c)** α GLT expression was examined by RT-PCR. GAPDH was used as an internal control

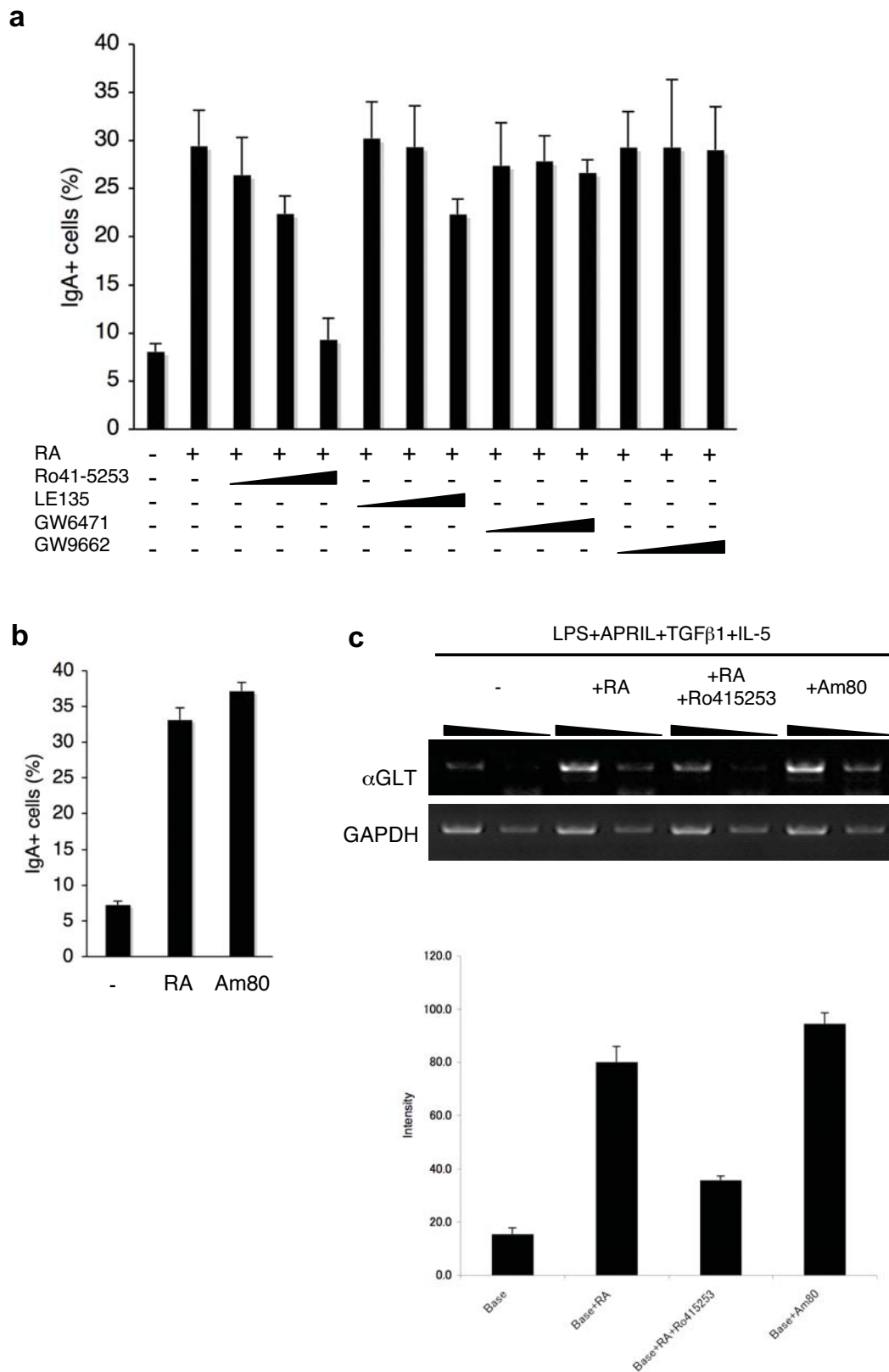
for RT-PCR. Five-fold serial dilutions of cDNAs were amplified for the indicated transcripts. (Lower panel) The expression levels of α GLT are shown.



Supplemental fig. 1



Supplemental fig. 2



Supplemental fig. 3

Total cell number		
	Runx2 ^{+/+} 3 ^{+/+}	Runx2 ^{-/-} 3 ^{-/-}
Spleen	4.2x10 ⁷	5.2x10 ⁷
Bone marrow	1.2x10 ⁷	1.3x10 ⁷
Pec	3.2x10 ⁷	1.26x10 ⁷

Supplemental table 1