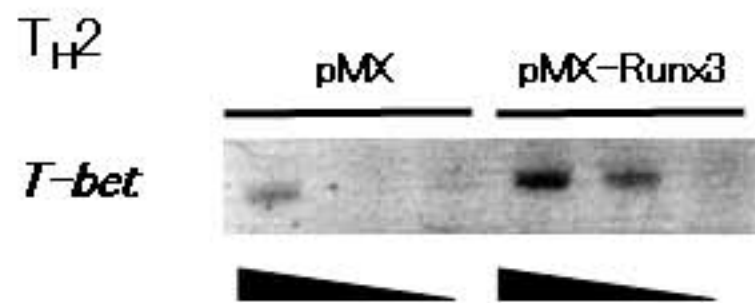
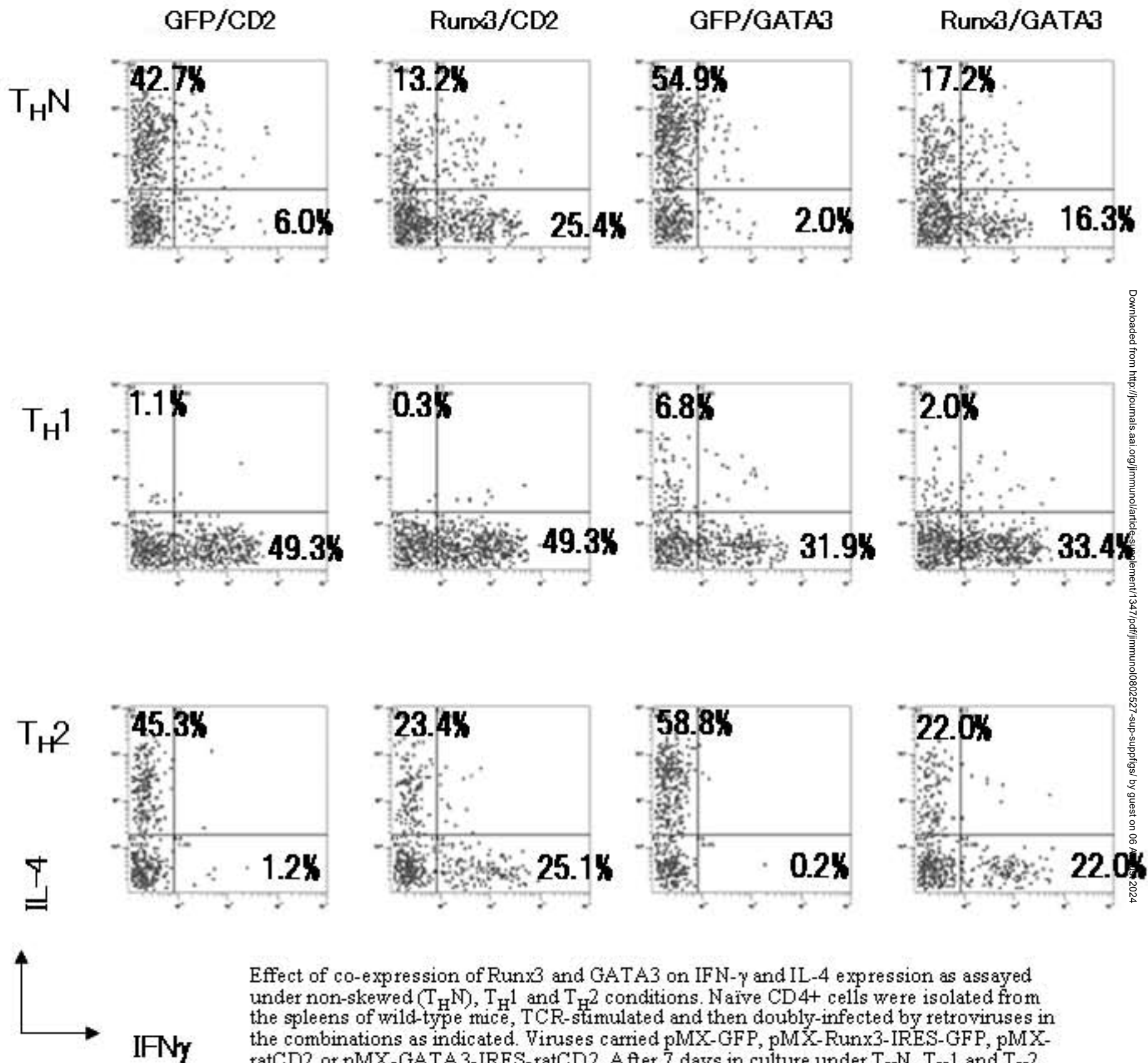


Figure S1



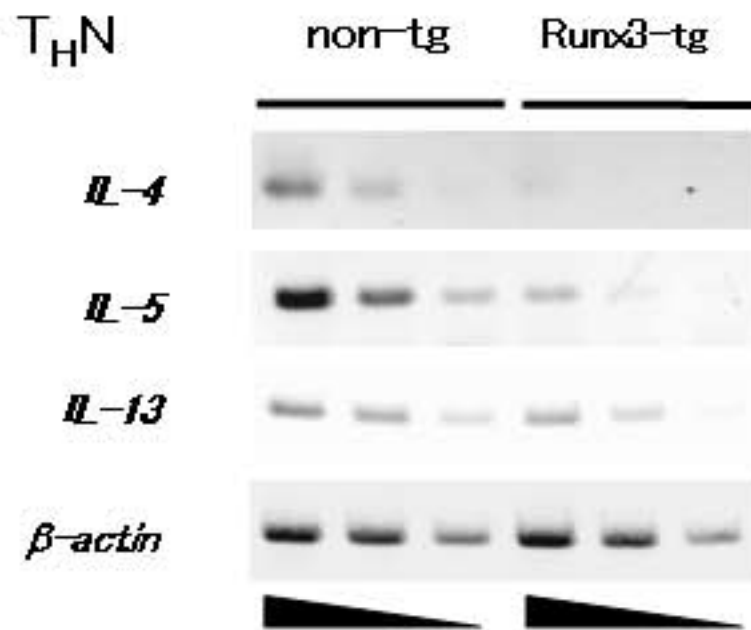
Effect of Runx3 over-expression on the *T-bet* transcription. An experimental procedure was the same as that in Fig. 2A except that increasing amounts of cDNA were used as the template for the detection of *T-bet* transcript by semi-quantitative PCR. It can be seen that even under T_H2 conditions, *T-bet* transcripts were induced substantially by Runx3.

Figure S2



Effect of co-expression of Runx3 and GATA3 on IFN- γ and IL-4 expression as assayed under non-skewed (T_{H^N}), T_{H^1} and T_{H^2} conditions. Naïve CD4⁺ cells were isolated from the spleens of wild-type mice, TCR-stimulated and then doubly-infected by retroviruses in the combinations as indicated. Viruses carried pMX-GFP, pMX-Runx3-IRES-GFP, pMX-ratCD2 or pMX-GATA3-IRES-ratCD2. After 7 days in culture under T_{H^N} , T_{H^1} and T_{H^2} conditions, respectively, the ratCD2⁺ cells were sorted, re-stimulated and then analyzed by intracellular staining for IFN- γ and IL-4. The GFP⁺ cells were gated and their fluorescence intensity of IFN- γ and IL-4 is shown for each culture. Results obtained for the T_{H^N} condition were essentially the same as that in Fig. 5. Namely, Runx3 increased IFN- γ expression, whereas GATA3 enhanced IL-4 expression. Co-expression of Runx3 and GATA3 canceled each enhancing effects. Under T_{H^1} and T_{H^2} conditions, over-expression of GATA3 increased the proportions of IL-4⁺ cells slightly and substantially, respectively. Co-expression of Runx3 abolished such activity of GATA3 on IL-4 expression. These results suggest that the balance of Runx3 and GATA3 regulates the relative expression level of IL-4 (and IFN- γ).

Figure S3



Effect of transgenic *Runx3* on T_H2 cytokine transcripts. $CD4^+$ cells were isolated from the spleens of non-transgenic and *Runx3*-transgenic mice and TCR-stimulated. After 7 days in culture under non-skewing (T_H2) conditions, RNA was isolated. Increasing amounts of cDNA were used as the template for the detection of *IL-4*, *IL-5* and *IL-13* transcripts by semi-quantitative PCR. As can be seen, *Runx3* transgene remarkably reduced expression of all T_H2 cytokine transcripts examined.