Varying levels of X chromosome coalescence in female somatic cells alters the balance of X-linked dosage compensation and is implicated in female-dominant systemic lupus erythematosus

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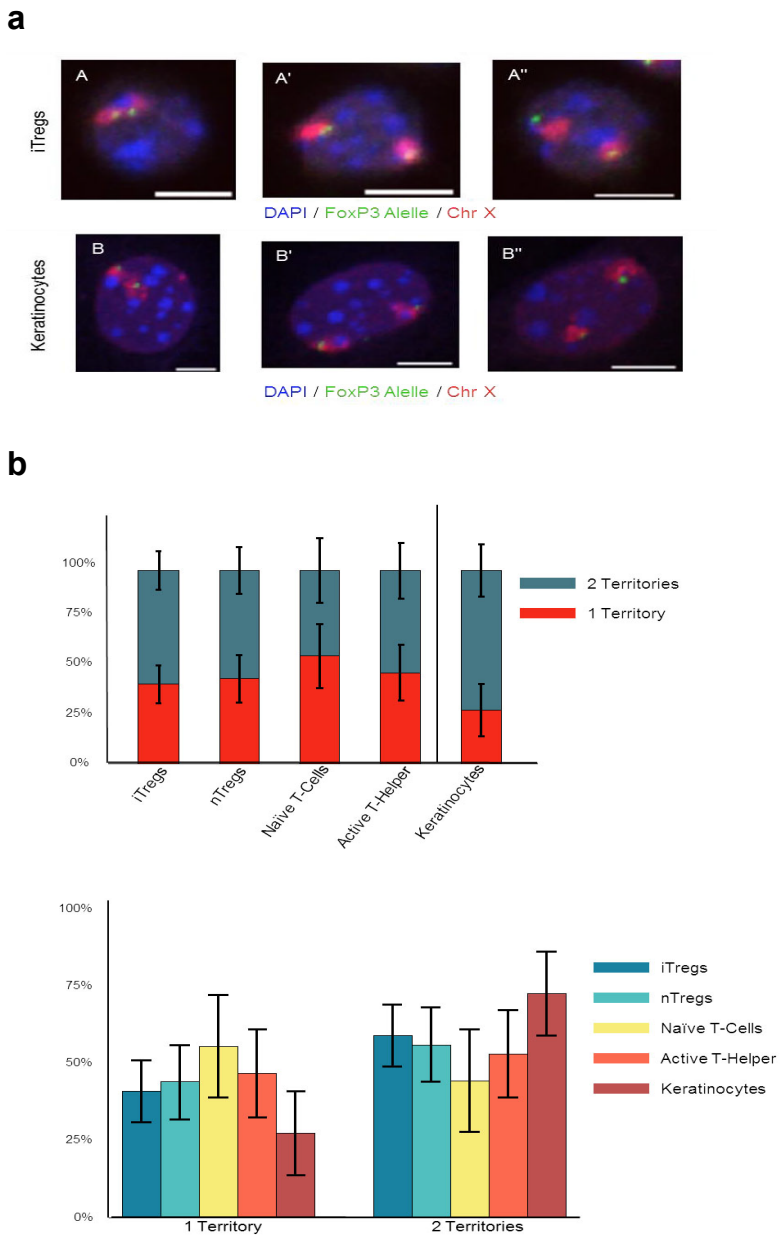
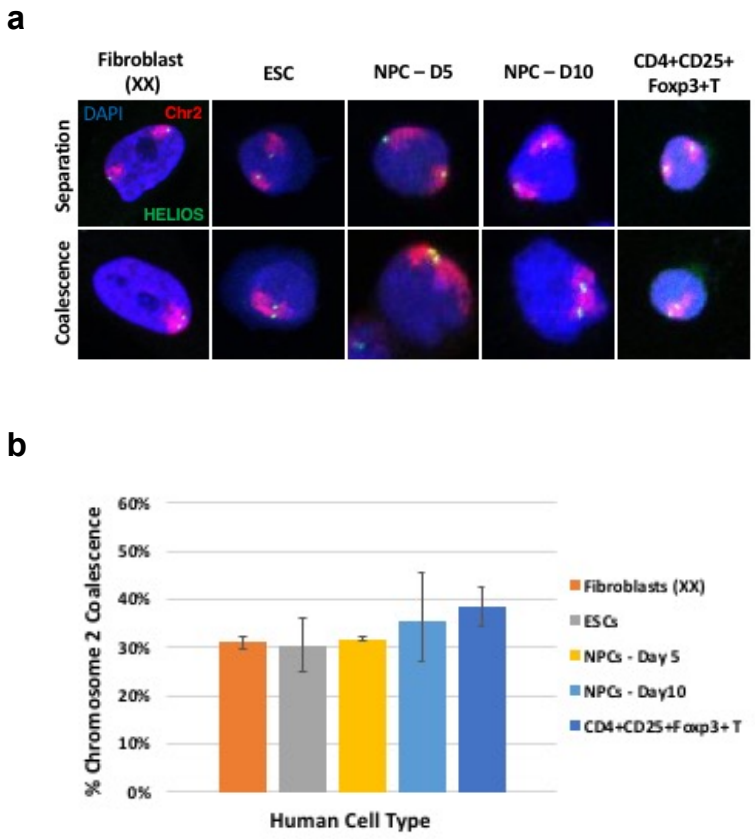
Supplemental Figures

Supplemental Figure 1



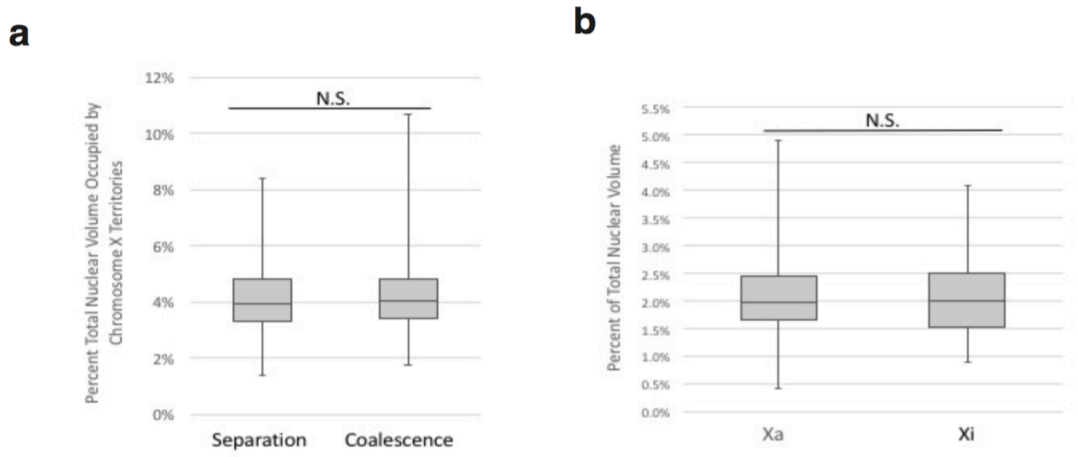
Supplemental Figure 1. (a) 3D maximum intensity projections of mouse induced Tregs (upper panel) and keratinocyte (lower panel) nuclei (blue) with FOXP3 (green) and chromosome X (red) labeled during X separation and coalescence. **(b)** 3D analysis of chromosome X coalescence frequency in various mouse cell types. Values presented as mean error bars are 95% confidence intervals of the mean, N> 41 nuclei. Values are a single biological replicate.

Supplemental Figure 2



Supplemental Figure 2. (a) 3D DNA FISH maximum intensity projections of human nuclei labeled with DAPI (blue), chromosome 2 (red), and chromosome 2 gene loci, HELIOS (green) in various human cell types containing two chromosome 2, during separation (upper panel) or coalescence (lower panel). **(b)** 3D analysis of chromosome 2 coalescence frequency in various human female cell types. Values presented as mean ± standard deviation. **P*<0.05, ***P*<0.01, Student's *t*-test. Each column represents approximately 150-200 nuclei analyzed.

Supplemental Figure 3



Supplemental Figure 3. (a) Percent total IMR- nuclear volume occupied by X chromosomes during either separation or coalescence. **P*<0.05, ***P*<0.01, Student's *t*-test. Each whisker-box plot represents 100 nuclei analyzed. **(b)** Percent total IMR-90 nuclear volume occupied by either the Xi or Xa during chromosome X separation. **P*<0.05, ***P*<0.01, ****P*<0.001, Student's *t*-test. A total of 100 nuclei were analyzed. N.S. = Not Significant.