## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: All cytokine-regulated genes, k-means clustered (k = 4).

File Name: Supplementary Data 2

Description: All cytokine-induced genes, by groups (related to Fig. 1d).

File Name: Supplementary Data 3

Description: STAT3 binding sites called in each condition.

File Name: Supplementary Data 4

Description: Differentially regulated H3K27ac and STAT3 sites.

File Name: Supplementary Data 5

Description: List of the nearest gene to every assisted site.

File Name: Supplementary Data 6

Description: Details of all RNA-seq and ChIP-seq samples.