## **Supporting Information**

Cheon and Stark 10.1073/pnas.0903487106

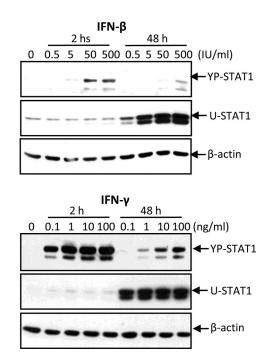
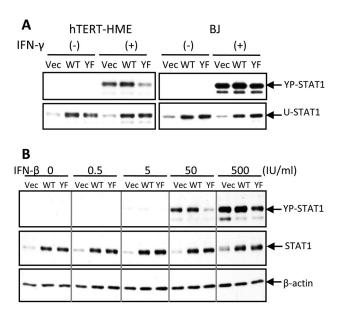


Fig. S1. IFN- $\beta$  or IFN- $\gamma$  increases the expression of U-STAT1. hTERT-HME1 cells were treated with IFN- $\beta$  (0.5–500 units/mL) or IFN- $\gamma$  (0.1–100 ng/mL) for 2 or 48 h. The amounts of YP-STAT1 and U-STAT1 were measured by the Western blotting method.



**Fig. S2.** Increased STAT1 is not completely phosphorylated in response to IFN- $\gamma$  or IFN- $\beta$ . hTERT-HME1 or BJ cells were infected with lentiviruses expressing wild-type STAT1 (WT), Y701F-STAT1 (YF), or empty vector (Vec). (*A*) Each cell type was treated with IFN- $\gamma$  (100 ng/mL) for 30 min, and the amounts of YP-STAT1 and U-STAT1 were measured by the Western blotting method. (*B*) hTERT-HME1 cells infected with STAT1 or empty vector were treated with IFN- $\beta$  (0.5–500 units/ml) for 30 min, and the amounts of YP-STAT1 and STAT1 were measured by the Western blotting method.

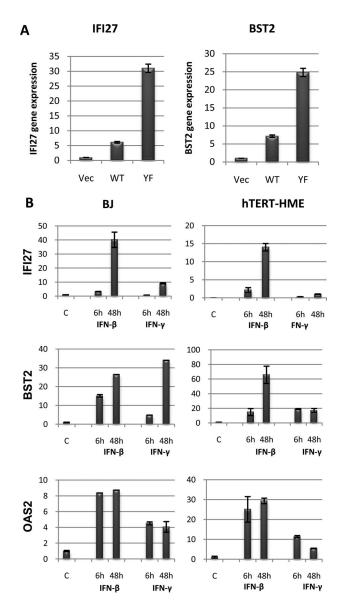


Fig. S3. The expression of U-STAT1-induced genes. The expression of representative genes that were regulated by U-STAT1 was measured by using real-time PCR with the same RNA samples that were used for microarray analysis. (*A*) BJ cells were tranfected with empty vector (Vec), wild-type STAT1 (WT), or Y701F-STAT1 (YF). (*B*) BJ cells were treated with 3 units/mL IFN- $\beta$  or 0.3 ng/mL IFN- $\gamma$  for 6 or 48 h (*Left*), and hTERT-HME1 cells were treated with 5 units/mL IFN- $\beta$  or 0.1 ng/mL IFN- $\gamma$  for 6 or 48 h (*Right*). The graphs show the mean value with standard deviation of duplicate PCR wells. Repeated experiments gave similar expression patterns, but the fold increase or decrease was different, depending on the level of STAT1 expression.

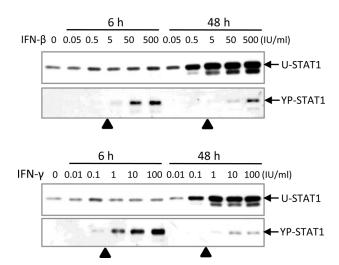


Fig. 54. Determination of IFN concentrations that induce maximum U-STAT1 but minimal YP-STAT1. BJ cells were treated with IFN- $\beta$  or IFN- $\gamma$  for 6 or 48 h to determine a concentration that induced the maximum level of U-STAT1 at 48 h with the minimum level of YP-STAT1. After additional experiments, the optimum concentrations were determined (indicated by arrowheads). The amounts of STAT1 and YP-STAT1 were determined by the Western blotting method.