



**Figure. S21: The posterior distribution of  $1/\sigma_k$  and weights:**

**A**, Boxplot of posterior mean of  $1/\sigma_k$  for every TF in the *Tabula Muris* lung dataset. **B**, The posterior distribution of  $1/\sigma_k$  for GATA3-target pairs. **C**, The posterior distribution of  $1/\sigma_k$  for CEBPA-target pairs. **D**, Boxplot of posterior mean of weights for TAL1 target gens in the *Tabula Muris* lung dataset. **E**, The prior and posterior distributions of weight between *Icam2* and TAL1. **F**, The prior and posterior distributions of weight between *Sdpr* and TAL1.