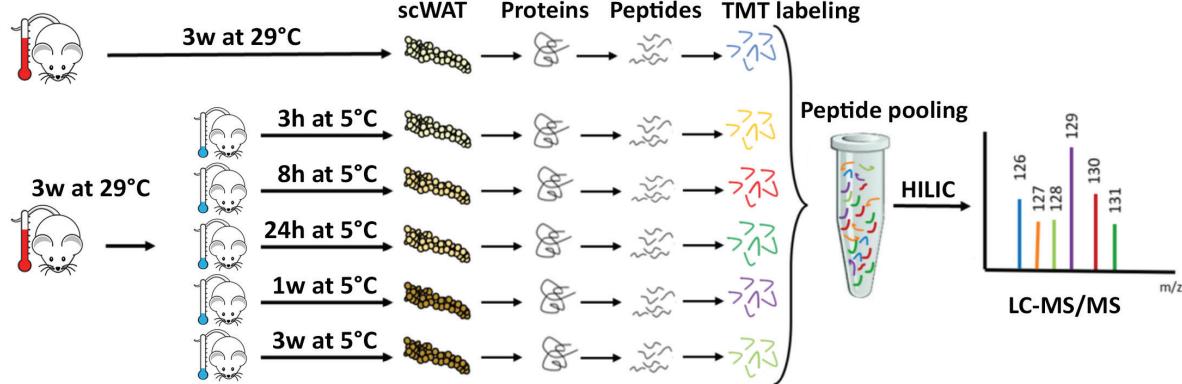
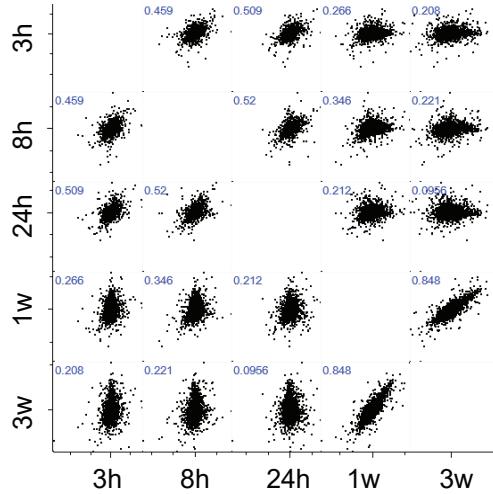


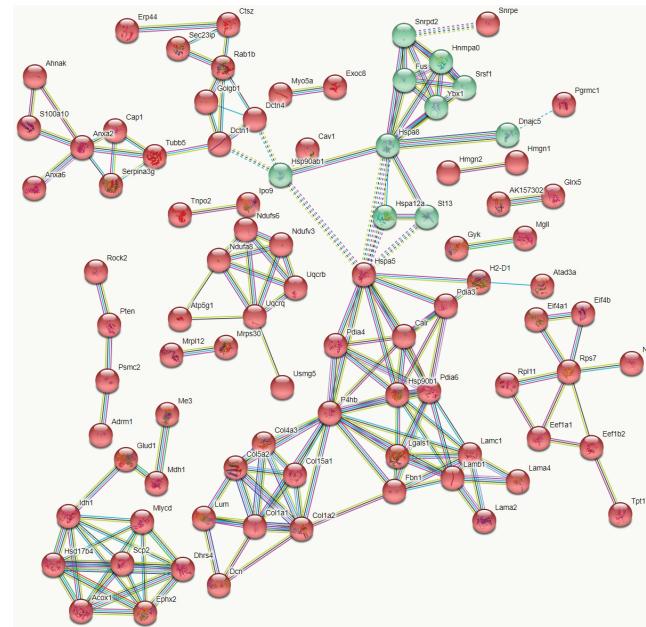
A



B



C



D

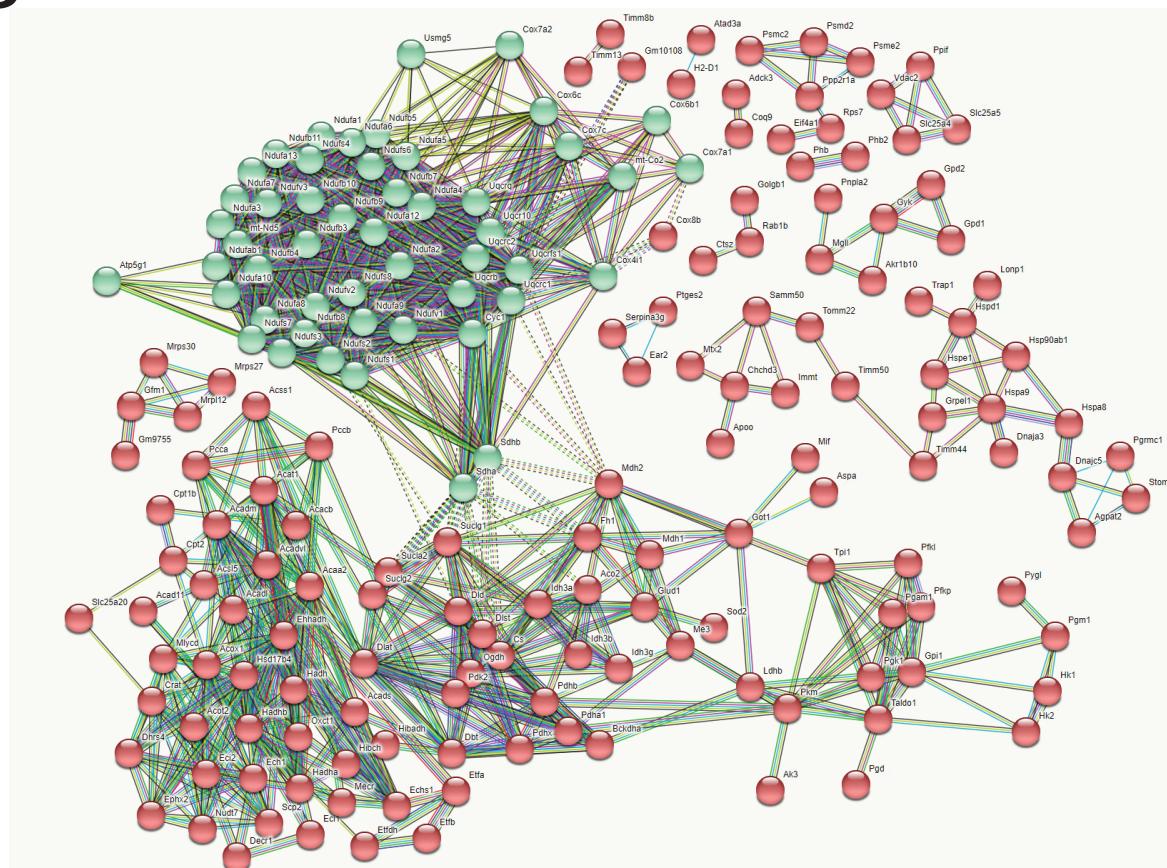


Figure S1. Proteomic regulation by acute and chronic cold in scWAT, Related to Figure 1.

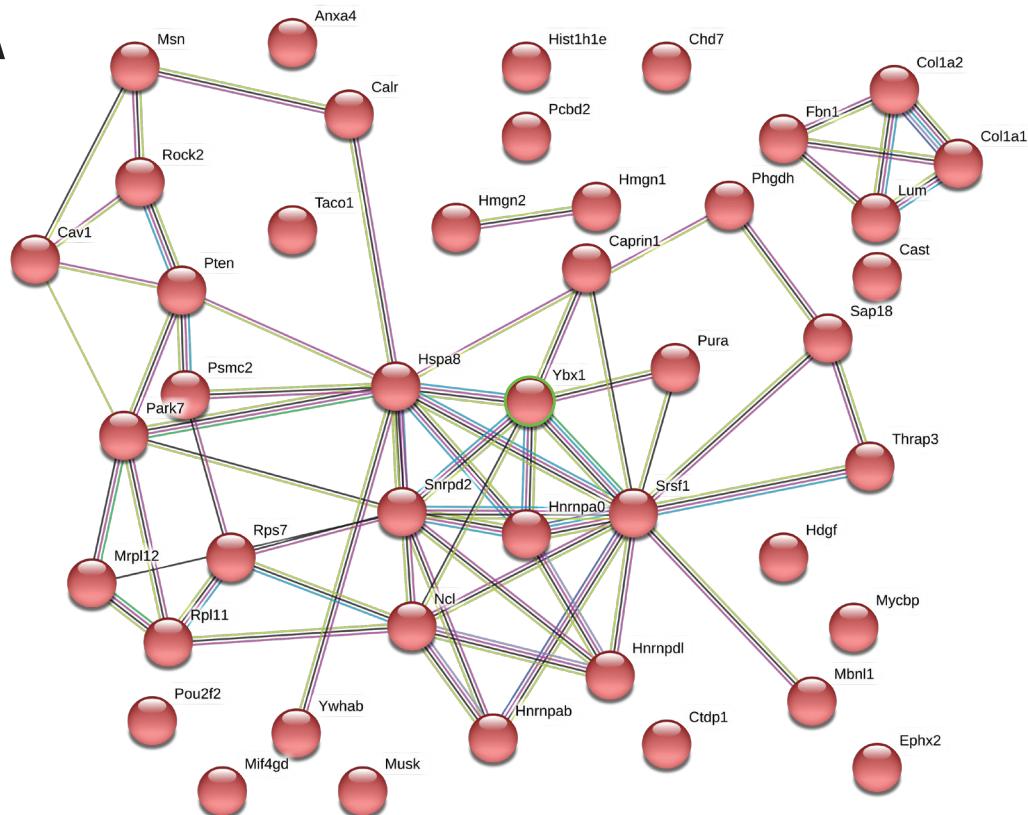
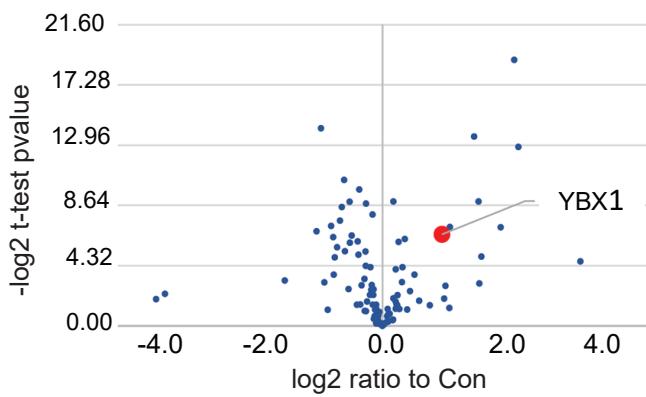
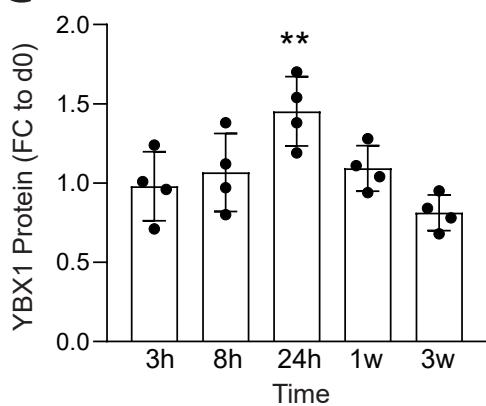
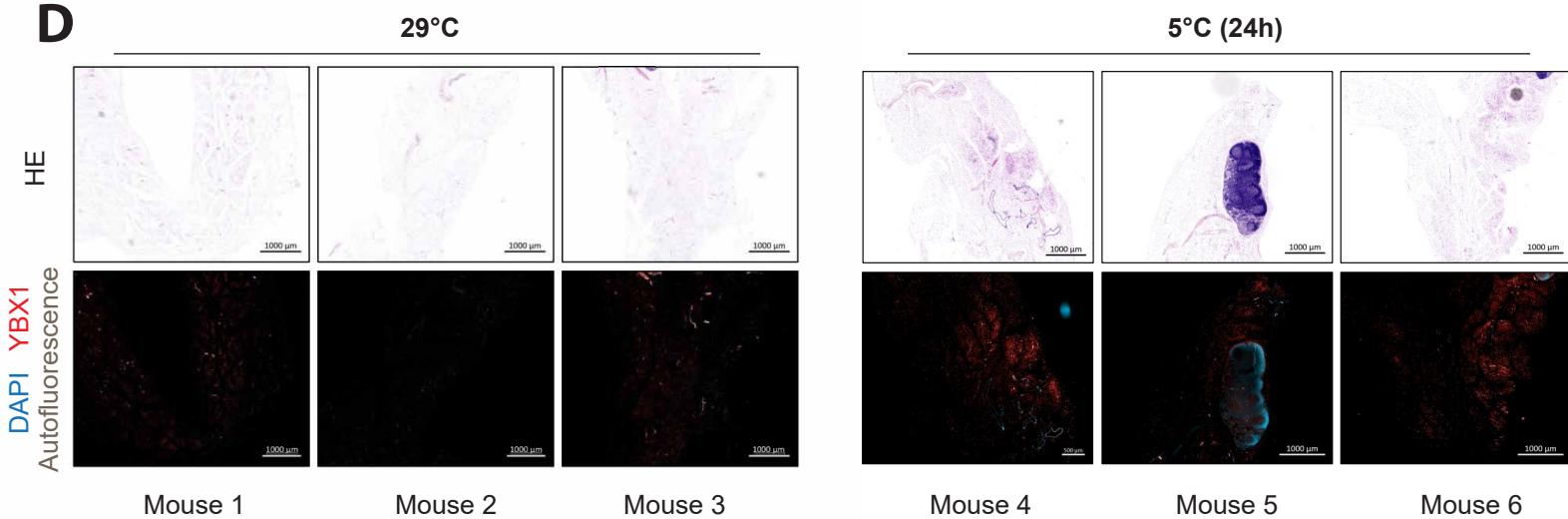
A**B****C****D**

Figure S2. YBX1 is a transcriptional regulator acutely upregulated in response to cold in scWAT, Related to Figure 2.

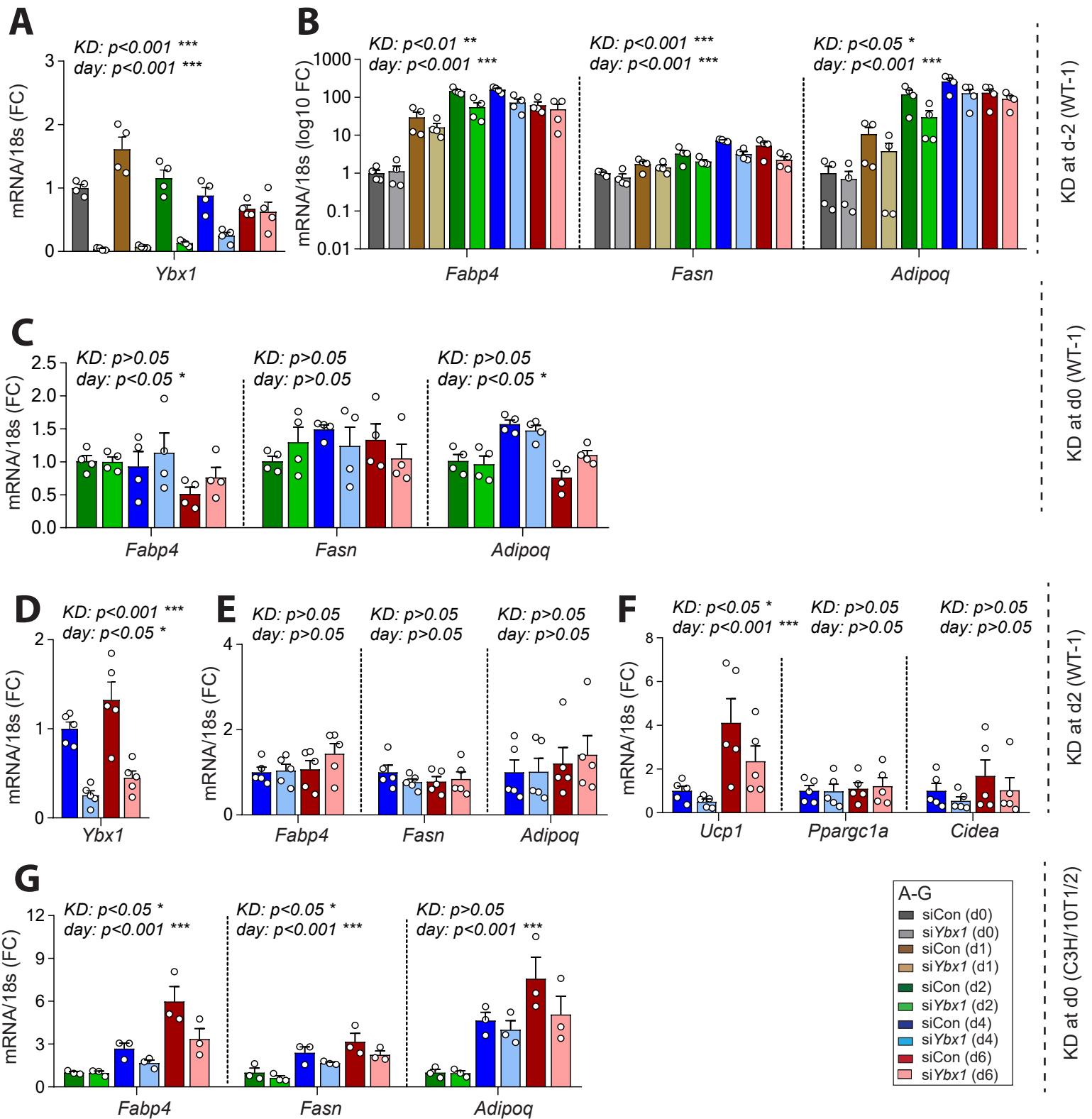
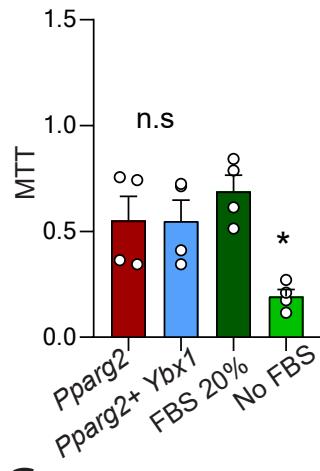
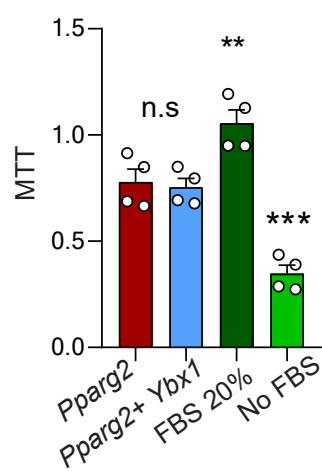
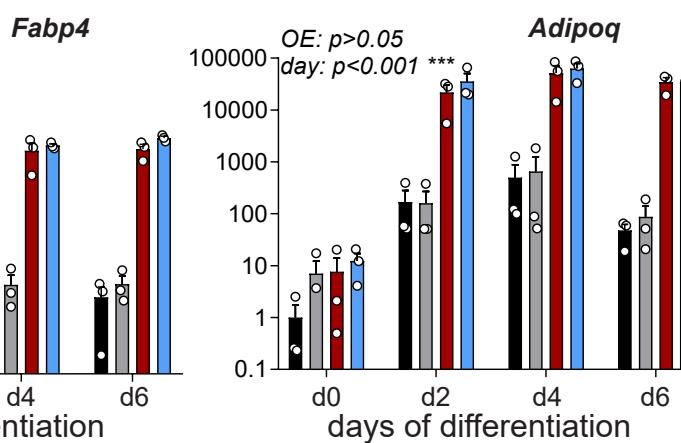
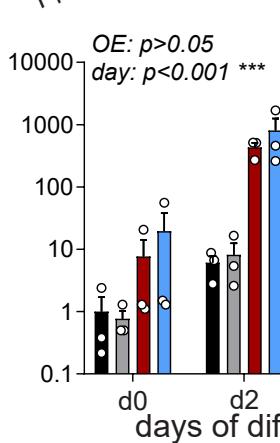
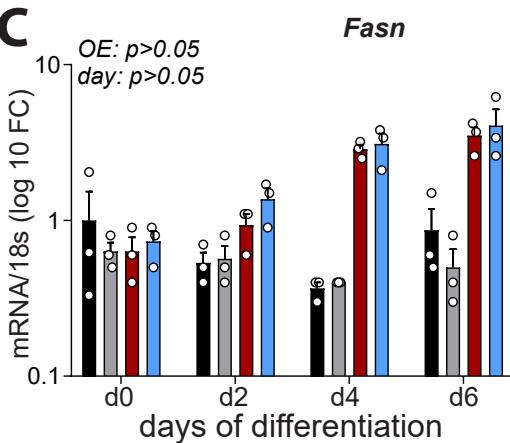
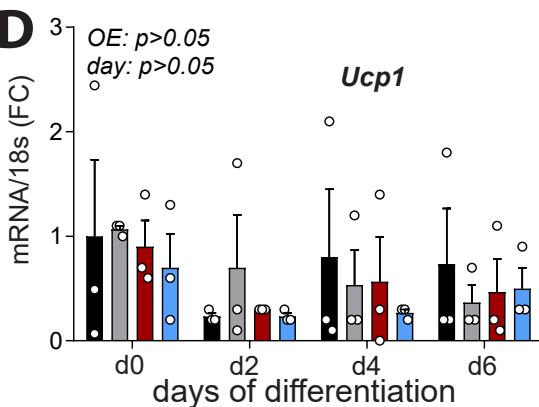


Figure S3. YBX1 is a regulator of early adipogenesis that also functions as a commitment factor in thermogenic adipocytes, Related to Figure 3.

A Proliferation Preadipocytes**B Proliferation day 0****C****D**

C-D

- EV
- Ybx1 gRNA
- Pparg2 gRNA
- Pparg2+ Ybx1 gRNA's

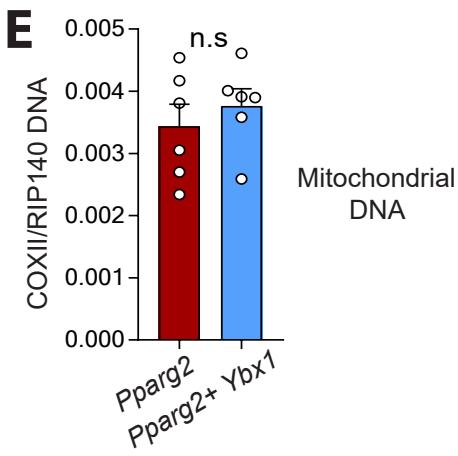
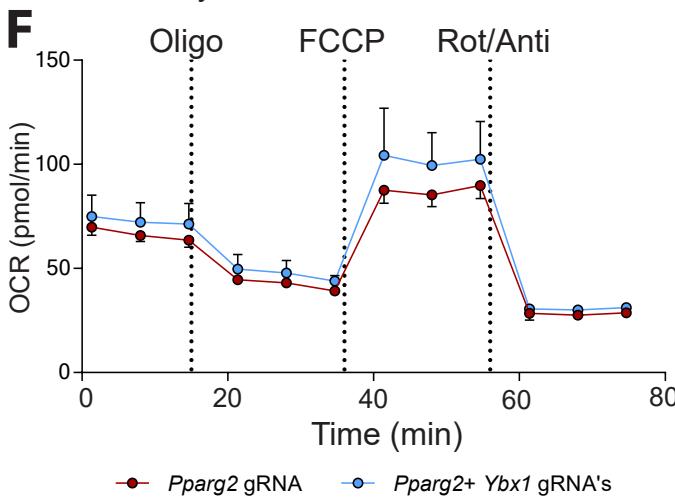
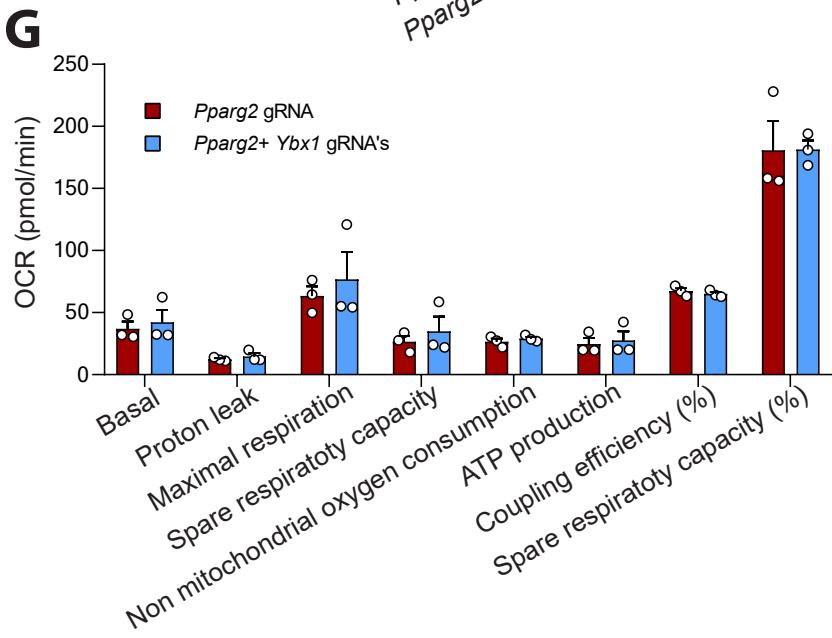
**F****G**

Figure S4. Effect of Ybx1 overexpression on cell proliferation, differentiation, mitochondrial DNA content, and mitochondrial function. Related to Figure 4.

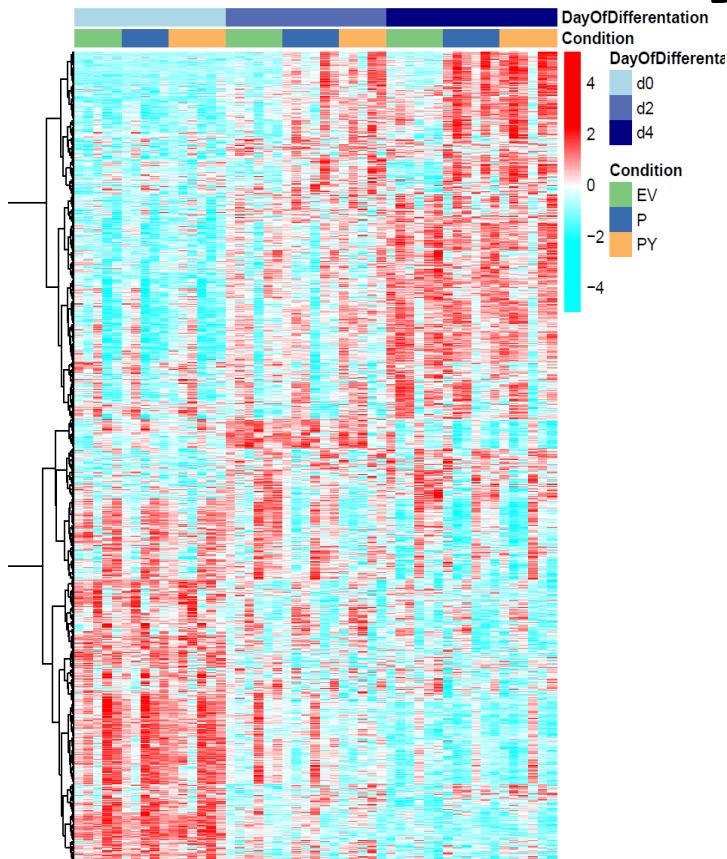
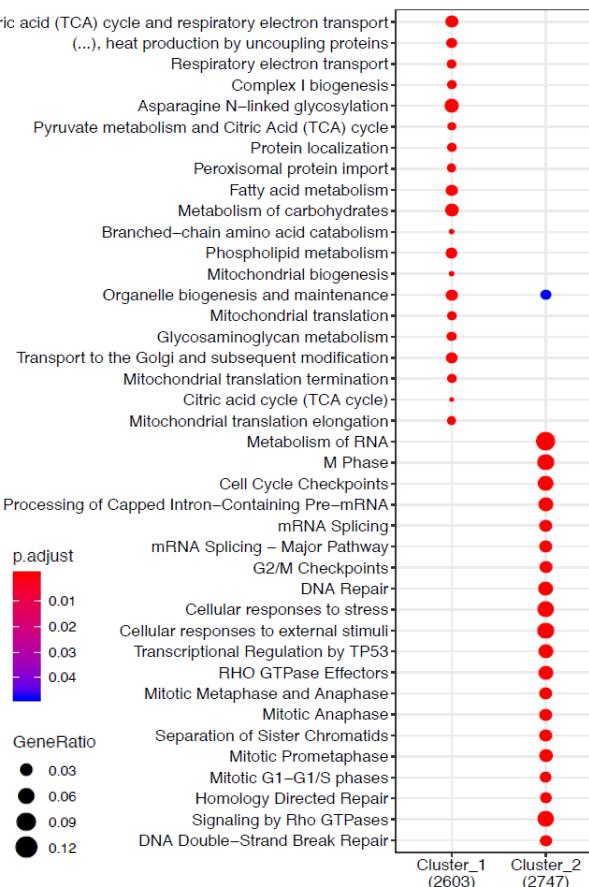
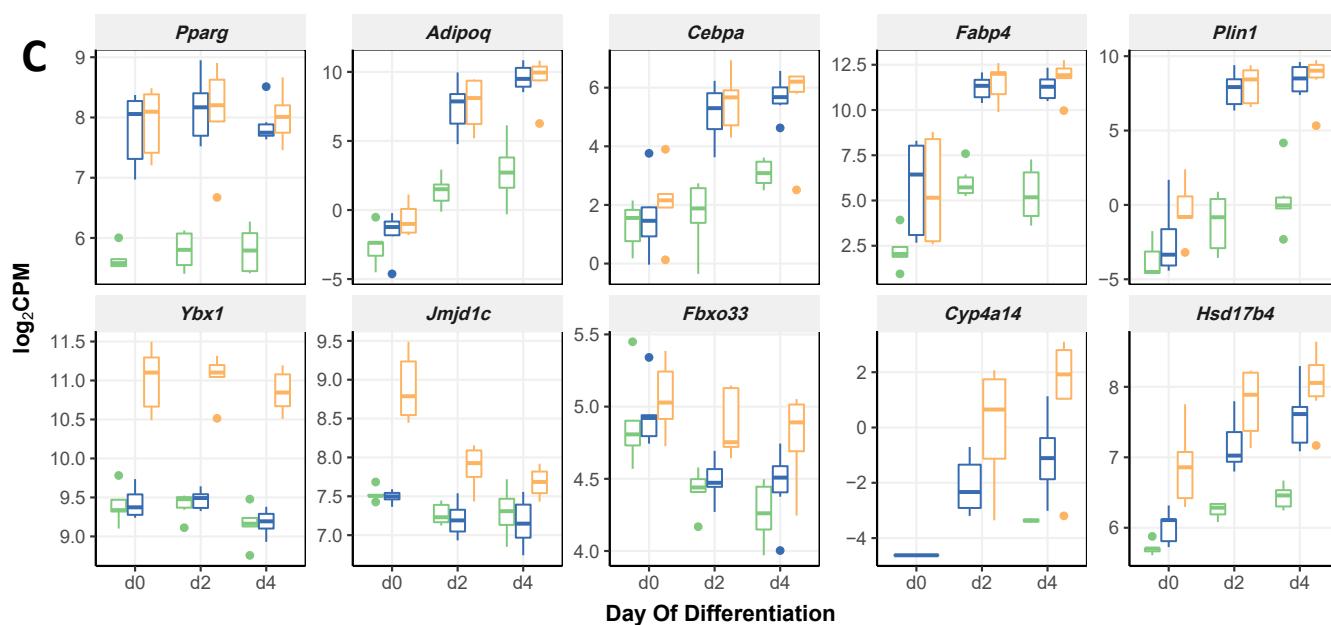
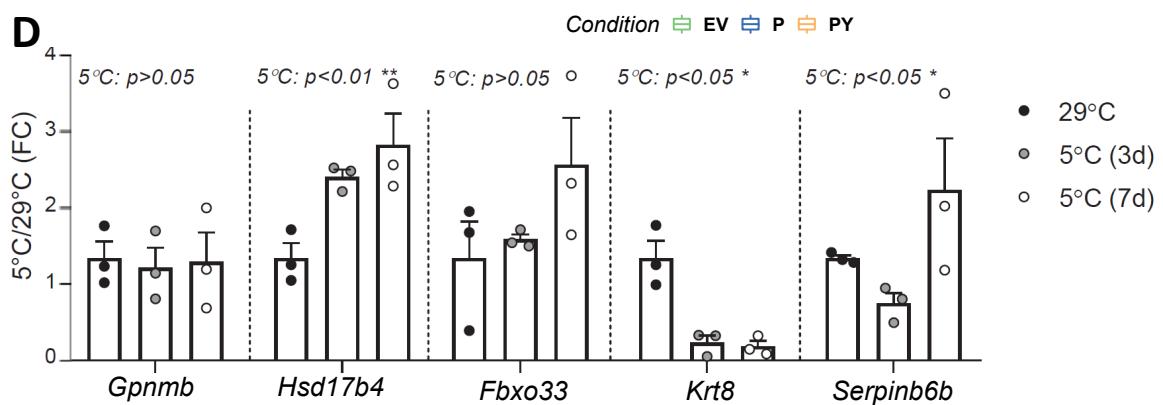
A**B****C****D**

Figure S5. Early changes in gene expression induced by Co-expression of Ybx1 with Pparg2 in differentiating C3H/10T1/2-SAM cells, Related to Figure 5.

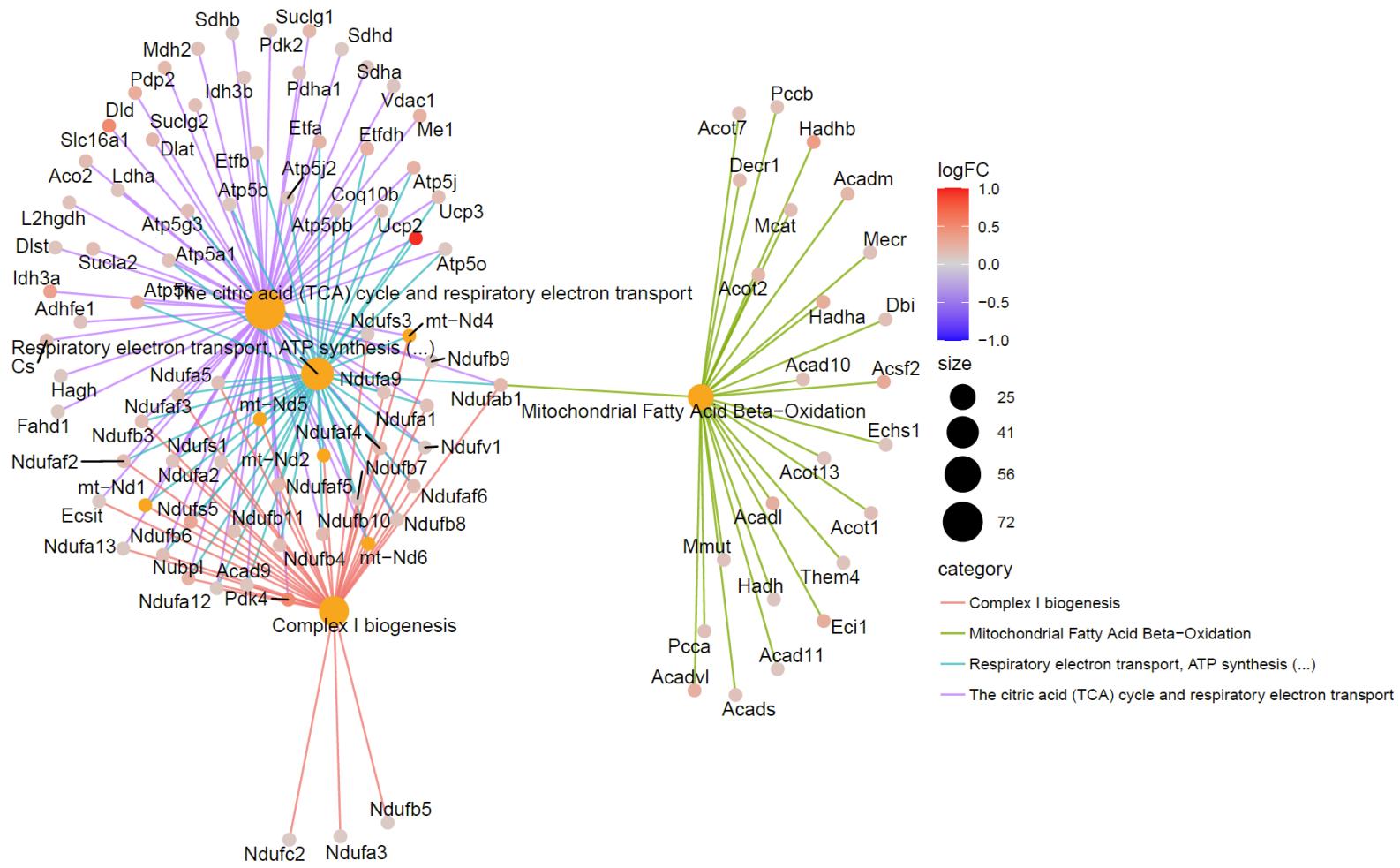


Figure S6. Key pathways upregulated by *Ybx1* to promote higher metabolic activity of beige adipocytes, Related to Figures 5.