



Supplementary information, Fig. S4 Gastrula pre-marked enhancer-neighboring genes are expressed in later embryonic tissues.

**Fig. S4 Gastrula pre-marked enhancer-neighboring genes are expressed in later embryonic tissues. a-c** Expression stage information for selected enhancer clusters based on GREAT analyses. **a**, A high brain constitutive enhancer bins; **b**, P high liver/heart constitutive enhancer bins; **c**, AM high heart constitutive enhancer bins. **d-f** The *in situ* hybridization (ISH) images and the RT-qPCR quantification of *Arx* (**d**), *Nkx2-5* (**e**), *Notch1* (**f**) transcripts and related nascent transcripts, as well as the respective enhancer RNAs. **g-h** The representative genome browser snapshots of H3K27ac, H3K4me1, and gene expression around the locus of *Lbh* (**g**) and *Pax6* (**h**). The enhancers were named as Men3 (**g**) and Ect3 (**h**), respectively. Enhancer reporter assay for Men3 and Ect3, and the RT-qPCR quantification of related genes were also shown. Scale bar, 1 mm.