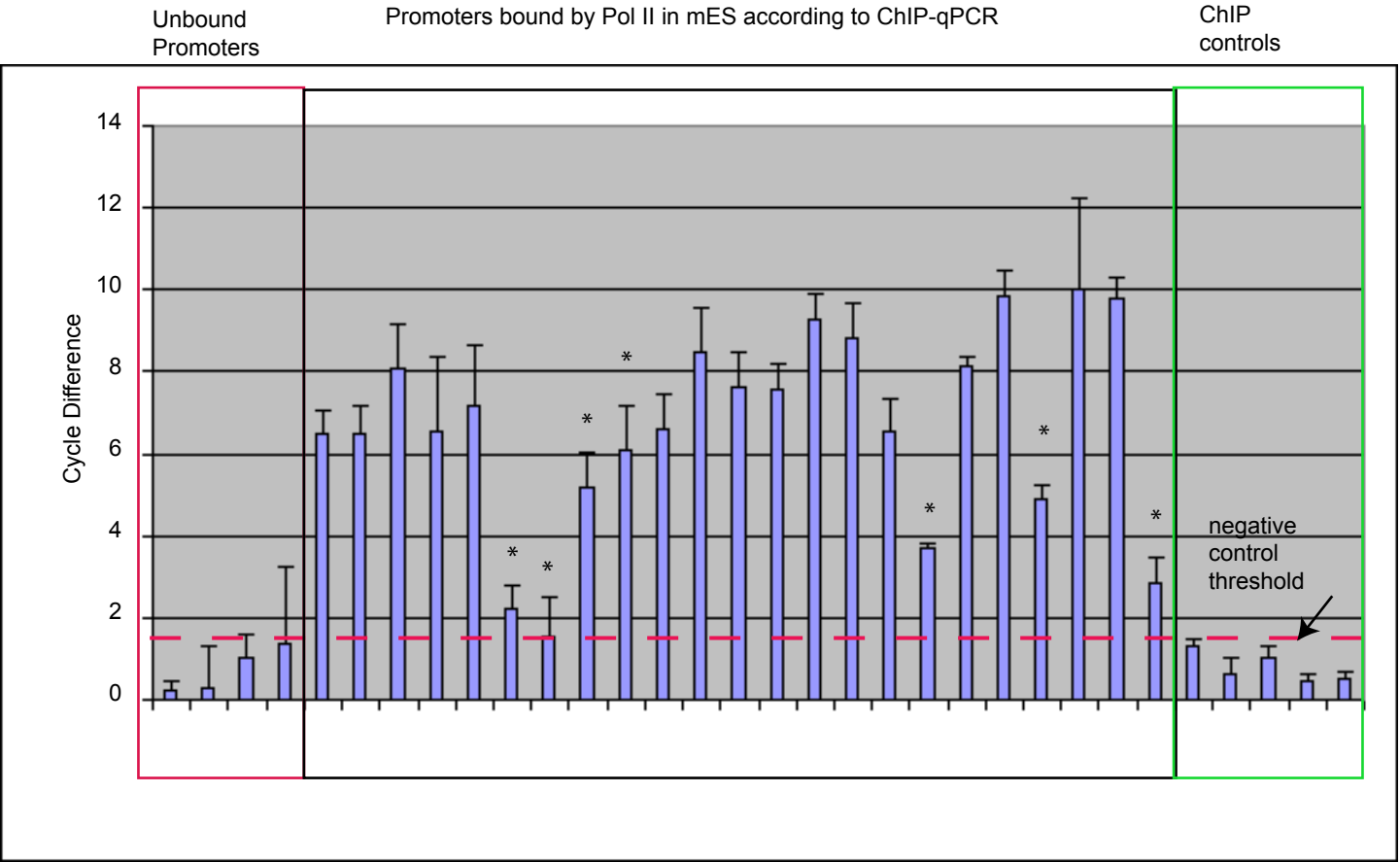


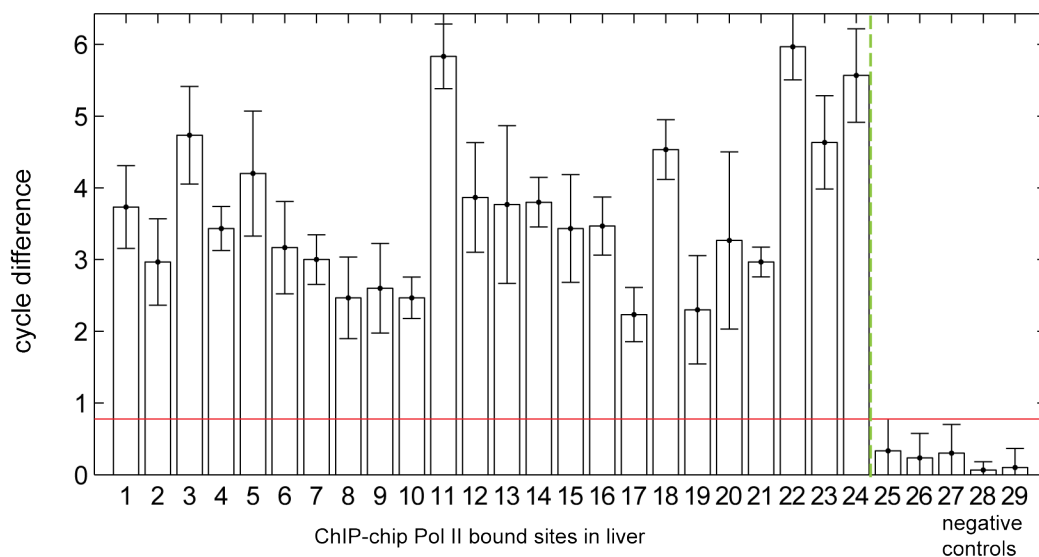
Figure S1



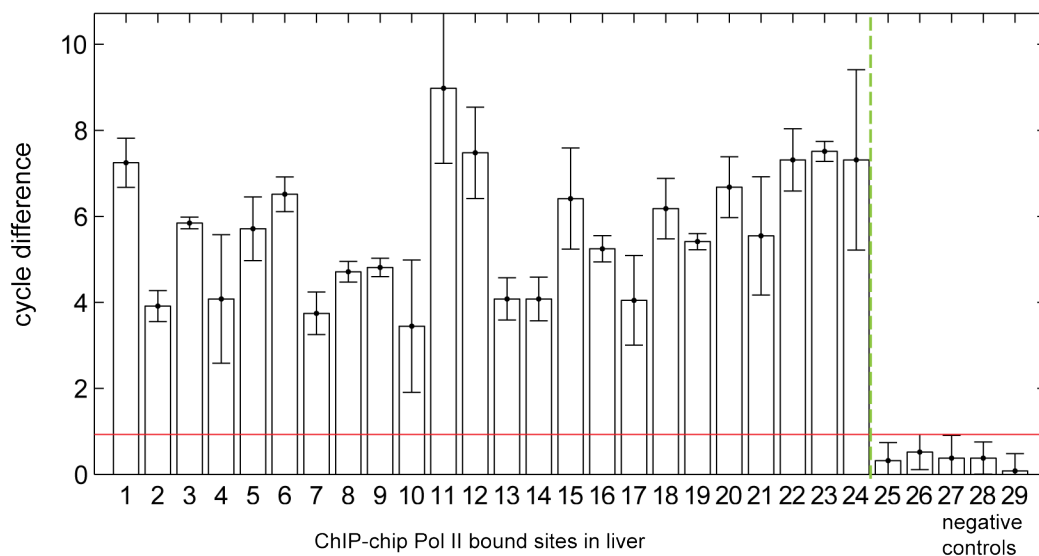
* Sites missed by ChIP-chip calling strategy.

Figure S2

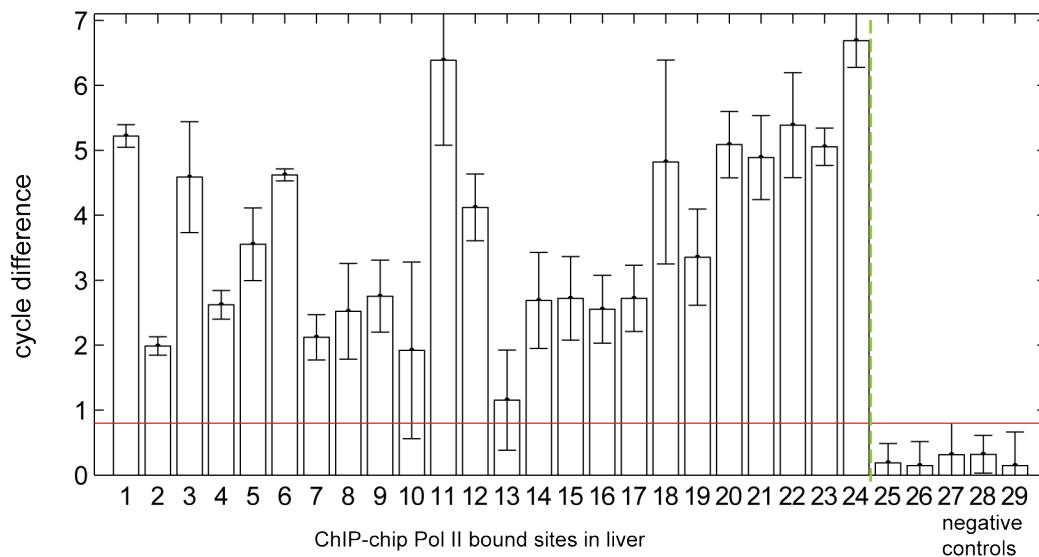
Pol II



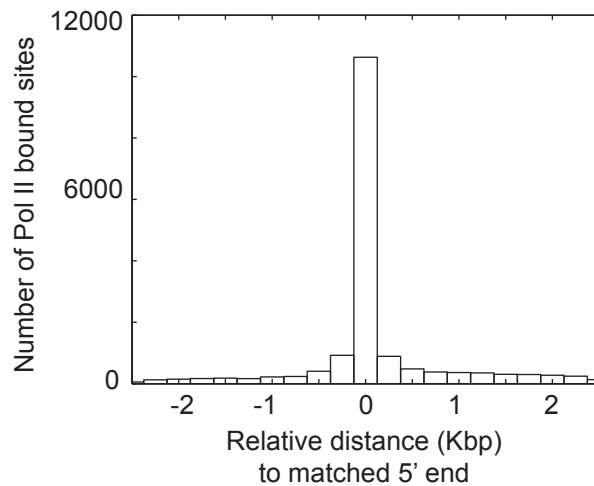
H3ac



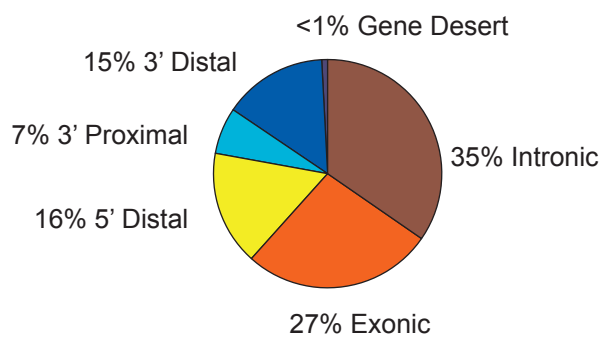
H3K4me3



A) TSS-matched Pol II sites, n=16,976



B) CAGE-matched Pol II sites, n=5,153



C) Putative promoters, n=382

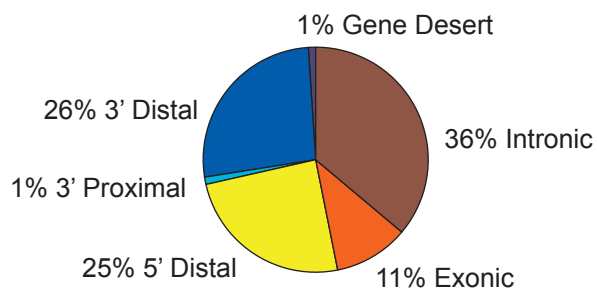


Figure S4

Gene locus with multiple Pol II binding

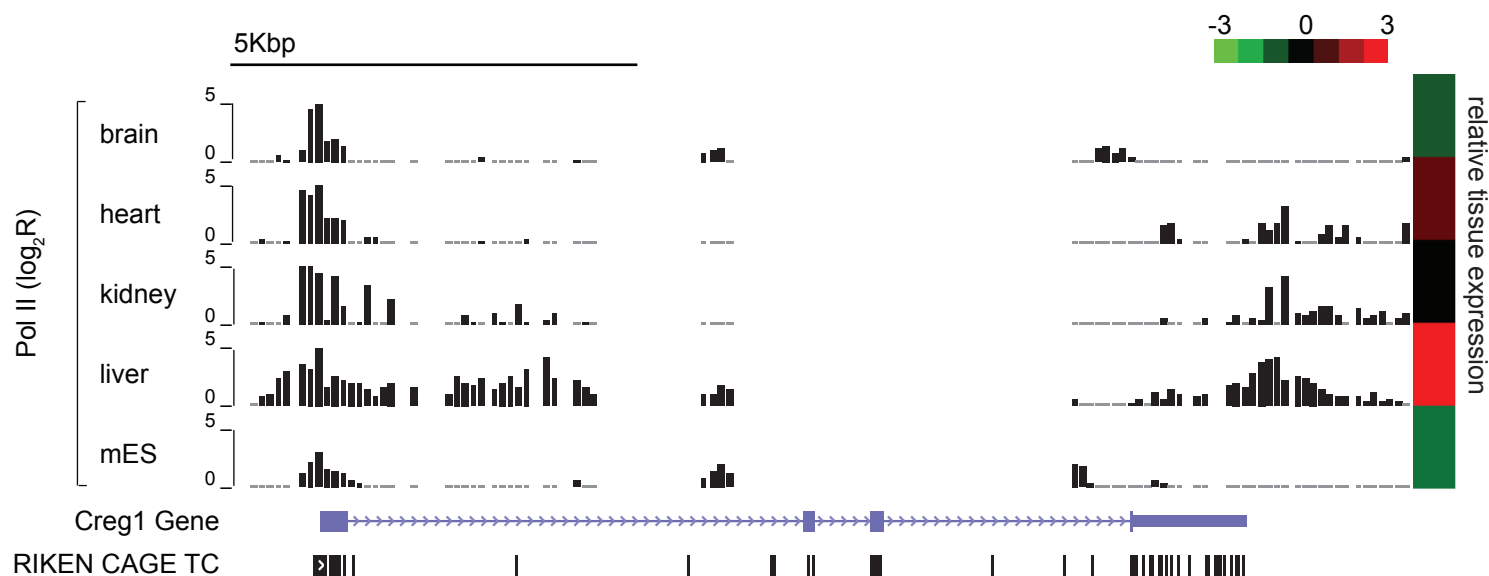
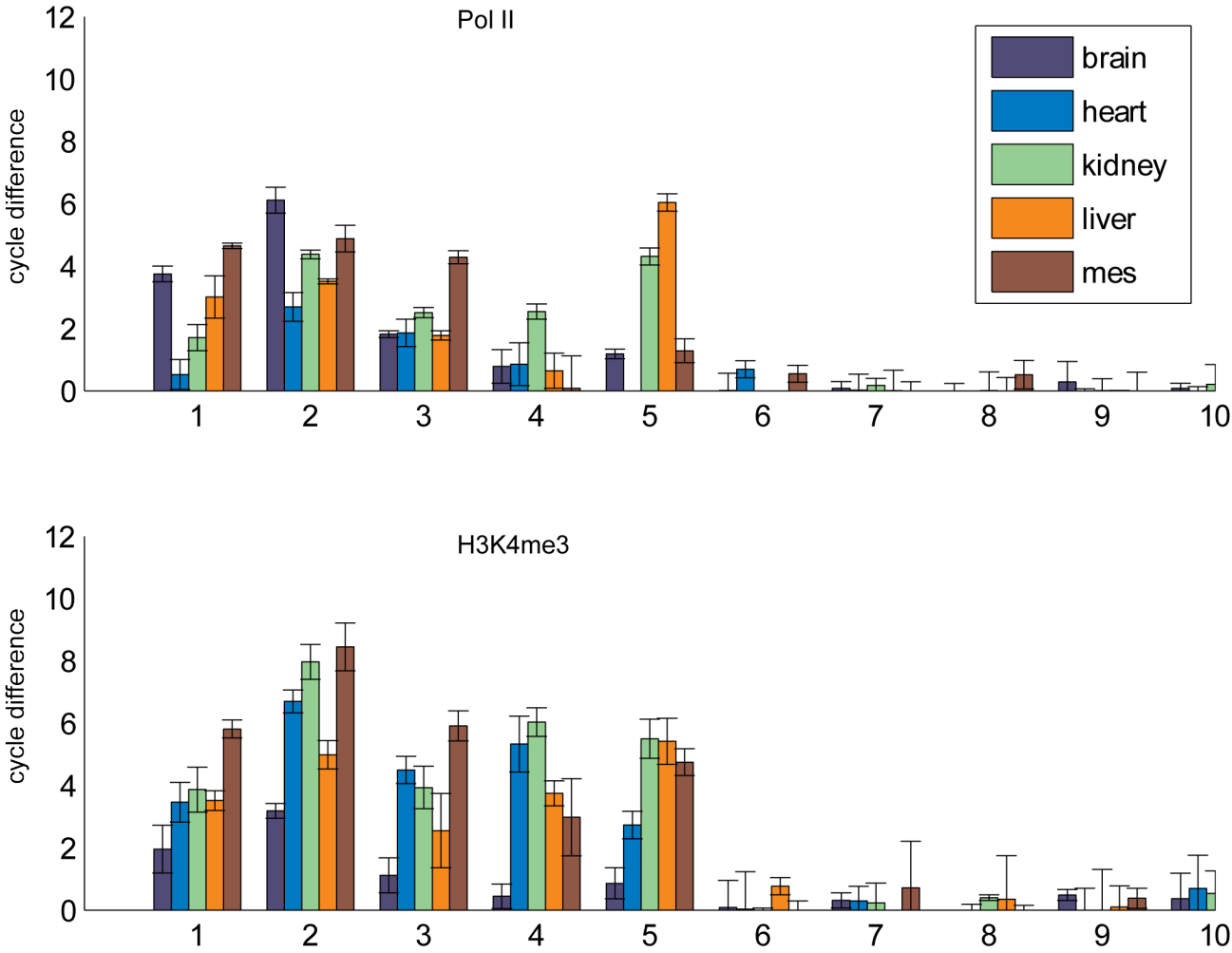


Figure S5



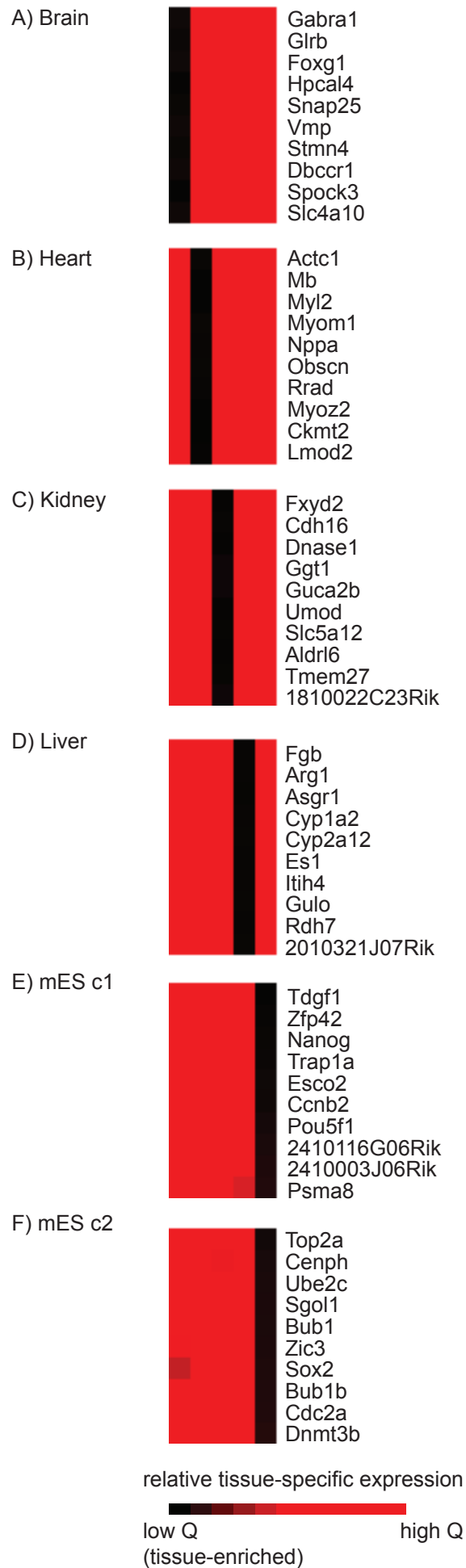


Figure S7

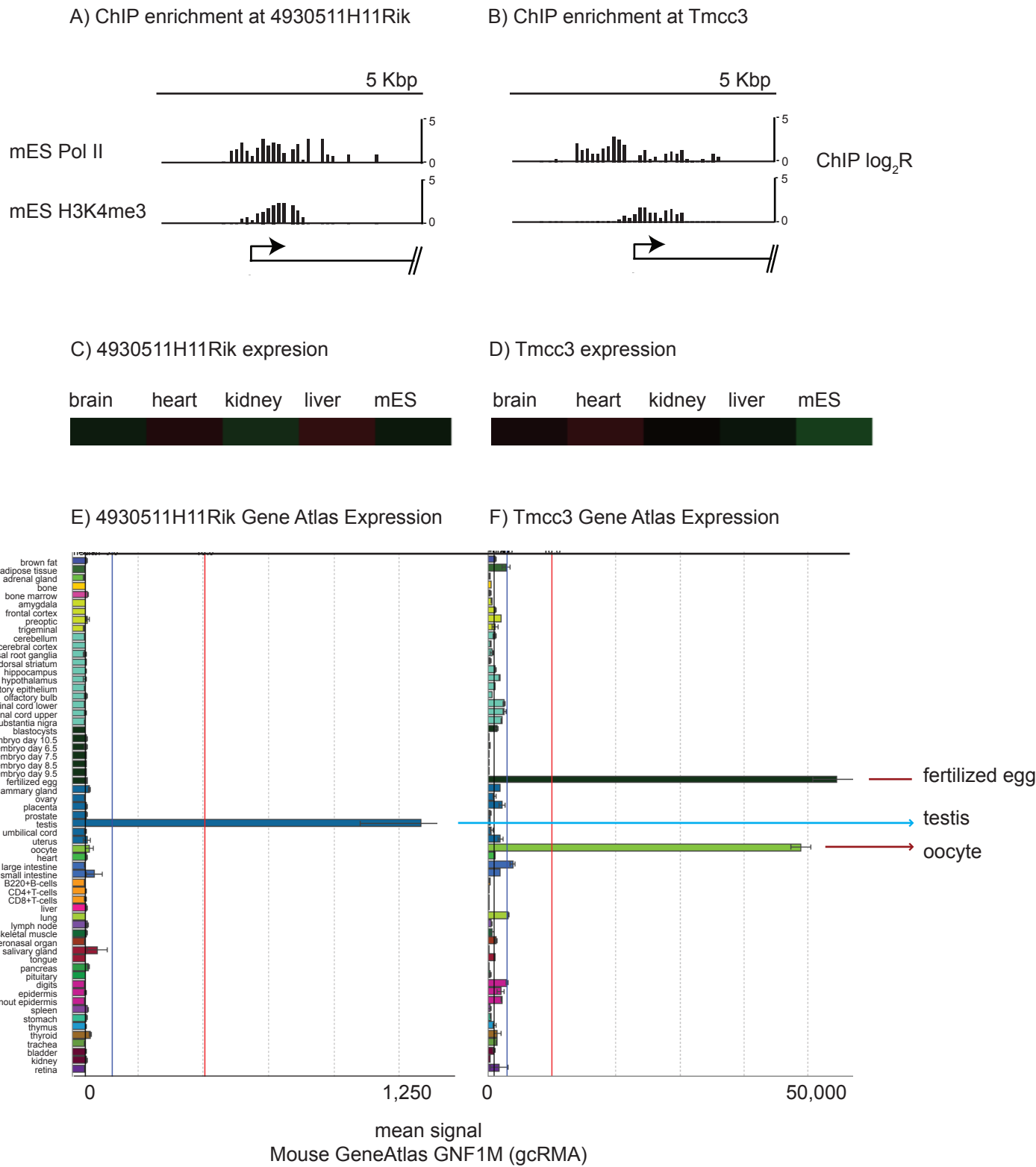


Table S1

	MES	Other Tissues
Total unmatched tissue-enriched Pol2 sites	414	405
Co-localized Nanog (ChIP-PET, n=3006)	95	1
Co-localized Oct4 (ChIP-PET, n=1083)	32	0
Co-localized Nanog and Oct4	26	0
Total Co-localized Nanog/Oct4	101 (24%)	1 (0.2%)

-

Table S2

tissue	genes	ECS	p-value
brain	219	19.63	<1e-16
heart	70	10.95	<1e-16
kidney	174	17.80	<1e-16
liver	159	18.71	<1e-16
mes1	157	10.11	<1e-16
mes2	158	14.08	<1e-16

Table S3

Tissue	GO-BP	p-value	Tissue	GO-BP	p-value
brain	cell-cell signaling	3.9E-10	mES c1	cell proliferation	5.2E-04
	establishment of localization	1.7E-06		regulation of cellular physiological process	1.7E-03
	transport	9.9E-06		anterior/posterior pattern formation	5.4E-03
	nervous system development	1.5E-05		cell motility	6.9E-03
	regulation of cyclase activity	8.5E-03		localization of cell	6.9E-03
	regulation of lyase activity	8.5E-03		embryonic development (sensu Metazoa)	8.9E-03
	neuron differentiation	2.5E-02		negative regulation of physiological process	1.3E-02
	cell motility	4.2E-02		positive regulation of physiological process	2.1E-02
	localization of cell	4.2E-02		embryonic pattern specification	2.5E-02
heart	muscle contraction	9.9E-14		cell growth	2.5E-02
	circulation	3.6E-06		positive regulation of cellular process	2.6E-02
	muscle development	7.1E-04		morphogenesis of a branching structure	3.8E-02
	embryonic heart tube development	9.4E-04		cell cycle	4.1E-02
	muscle cell differentiation	5.5E-03		regulation of metabolism	4.8E-02
	regulation of organismal physiological process	7.8E-03	mES c2	cell cycle	5.6E-09
	organ morphogenesis	1.1E-02		cell division	3.9E-08
	embryonic development (sensu Metazoa)	1.4E-02		chromosome segregation	4.9E-06
	establishment of localization	5.3E-08		primary metabolism	3.3E-05
kidney	transport	1.5E-07		cellular metabolism	8.5E-05
	organ morphogenesis	3.2E-05		macromolecule metabolism	1.4E-03
	ion homeostasis	7.2E-04		regulation of cellular physiological process	2.0E-03
	cell homeostasis	2.9E-02		response to DNA damage stimulus	1.2E-02
	skeletal development	3.3E-02		regulation of metabolism	1.2E-02
liver	transport	1.1E-06		embryonic development (sensu Metazoa)	1.2E-02
	nitrogen compound metabolism	2.7E-06		DNA methylation	1.4E-02
	blood coagulation	3.1E-06		positive regulation of cellular process	4.1E-02
	regulation of body fluids	1.3E-05			
	establishment of localization	1.3E-05			
	response to pest, pathogen or parasite	1.7E-04			
	immune response	2.0E-04			
	response to other organism	2.4E-04			
	catabolism	3.9E-04			
	cell homeostasis	5.6E-04			
	urea cycle intermediate metabolism	2.2E-03			
	defense response	2.8E-03			
	response to wounding	8.0E-03			
	glucose homeostasis	1.1E-02			
	cellular metabolism	1.7E-02			
	regulation of organismal physiological process	2.4E-02			