

Table S2. Mechanisms of repression used in low and middle expressed categories of genes.

LEGs

Repression mark^	mESc	mEB	3T3 G0/G1	3T3 S-phase	Normal Liver	Tumor Liver	Huh-7	Foot	Foreskin	Lung	Ntera	MCF7
H3me3K27	16.39	14.71	19.7	19.93	24.89	27.03	28.38	23.36	24.72	24.12	17.77	17.91
Bound by POLR2A	6.18	6.66	5.85	5.49	7.17	5.62	4.49	6.67	6.04	5.89	5.94	5.87
H3me3K9	11.88	12.18	14.4	15.69	21.63	21.32	14.49	12.57	15.36	14.26	15.93	13.82
5-meC	*	*	14.1	15.85	14.71	12.52	17.4	12.81	14.97	14.43	12.36	17.36
no marks	65.55	66.45	45.95	43.04	31.6	33.51	35.24	44.59	38.91	41.3	48.0	45.0

MEGs

Repression mark	mESc	mEB	3T3 G0/G1	3T3 S-phase	Normal Liver	Tumor Liver	Huh-7	Foot	Foreskin	Lung	Ntera	MCF7
H3me3K27	16.11	13.00	10.69	5.57	9.65	12.43	12.15	10.70	11.37	11.16	17.32	10.07
Bound by POLR2A	11.85	10.98	23.48	15.84	15.83	12.65	14.03	18.39	16.70	16.63	13.92	13.81
H3me3K9	12.44	12.58	17.85	9.00	11.80	13.41	14.40	16.62	15.40	17.02	15.27	12.18
5-meC	*	*	19.78	11.95	15.43	17.10	16.43	16.89	15.68	15.86	16.61	12.41
no marks	59.60	63.44	28.2	57.64	47.29	44.41	42.99	37.40	40.85	39.33	36.88	48.5

^ Shown for each cell type are the percentages of each repression mark used to regulate the LEGs and MEGs sets

* Only few targets were identified on the promoter arrays

Table S3. Fold enrichment (Log2) of the promoters (from the top 2000 targets of the indicated ChIP-chip experiment) that fell into HEGs, MEGs, or LEGs category.

		mESc	mEB	3T3 G0/G1	3T3 S-phase	Normal Liver	Tumor Liver	Huh-7	Foot	Foreskin	Lung	Ntera	MCF7
POLR2A	HEGS	2.9-1.2	2.5-0.8	3.8-1.8	4.0-2.5	3.0-0.7	3.1-0.9	4.4-1.2	4.1-2.2	4.4-2.3	3.7-1.1	3.8-1.7	4.2-2.5
	MEGS	2.8-1.2	2.1-0.8	3.6-1.8	3.8-2.5	3.2-0.7	3.2-0.9	3.7-1.2	3.8-2.5	4.0-2.3	3.6-1.1	3.9-1.7	3.8-2.5
	LEGS	2.7-1.2	2.3-0.8	3.6-1.8	3.7-2.5	3.1-0.7	3.4-0.9	3.7-1.2	3.8-2.2	4.1-0.9	3.5-1.1	3.9-1.7	3.7-2.5
H3me3K27	HEGS	3.5-0.8	1.29-0.5	2.76-0.75	2.16-0.89	2.29-0.6	1.52-0.74	2.55-1.01	3.48-0.97	3.37- 1.04	2.4-0.71	3.8-1.0	1.25-0.44
	MEGS	3.4-0.8	1.12-0.5	2.9-0.74	2.41-0.88	2.02-0.6	2.03-0.74	3.18-0.99	3.94-0.98	3.49-1.04	3.3-0.71	4.1-1.0	1.84-0.44
	LEGS	4.07-0.86	1.89-0.5	3.0-0.74	3.01-0.88	2.29-0.6	2.32-0.74	3.17-0.99	4.2-0.98	3.86-1.03	3.19-0.71	4.1-1.0	2.08-0.44
H3me3K9	HEGS	2.21-1.19	1.94-1.15	2.23-0.4	2.69-0.42	2.14-0.53	2.02-0.59	3.54-1.51	2.9-0.68	1.14-0.42	3.52-0.78	3.1-0.61	3.17-0.43
	MEGS	1.9-1.19	1.8-1.15	2.05-0.4	1.93-0.42	2.35-0.53	1.93-0.59	3.6-1.51	3.34-0.68	0.77-0.42	3.43-0.78	3.1-0.6	2.68-0.43
	LEGS	2.58-1.19	2.14-1.15	1.94-0.41	2.25-0.42	2.71-0.53	2.03-0.59	3.54-1.51	3.09-0.68	1.26-0.42	3.23-0.78	2.8-1.6	3.64-0.43
MeC	HEGS	*	*	2.03-0.47	2.09-0.75	3.03-0.74	4.02-0.84	1.8-0.45	0.85-0.32	0.76-0.22	1.57-0.32	2.08-0.6	3.63-1.6
	MEGS	*	*	1.5-0.47	2.29-0.75	2.87-0.74	3.63-0.84	1.97-0.45	1.02-0.32	1.12-0.22	1.27-0.32	1.78-0.6	3.54-1.6
	LEGS	*	*	1.82-0.47	2.32-0.75	2.83-0.74	2.96-0.84	2.00-0.45	1.21-0.32	1.07-0.22	1.84-0.32	2.01-0.6	4.02-1.6

* Only few targets were identified on the promoter arrays