

## **Supplemental Materials**

### **Pluripotency Factors and Polycomb Group Proteins Repress Aryl Hydrocarbon Receptor Expression in Murine Embryonic Stem Cells**

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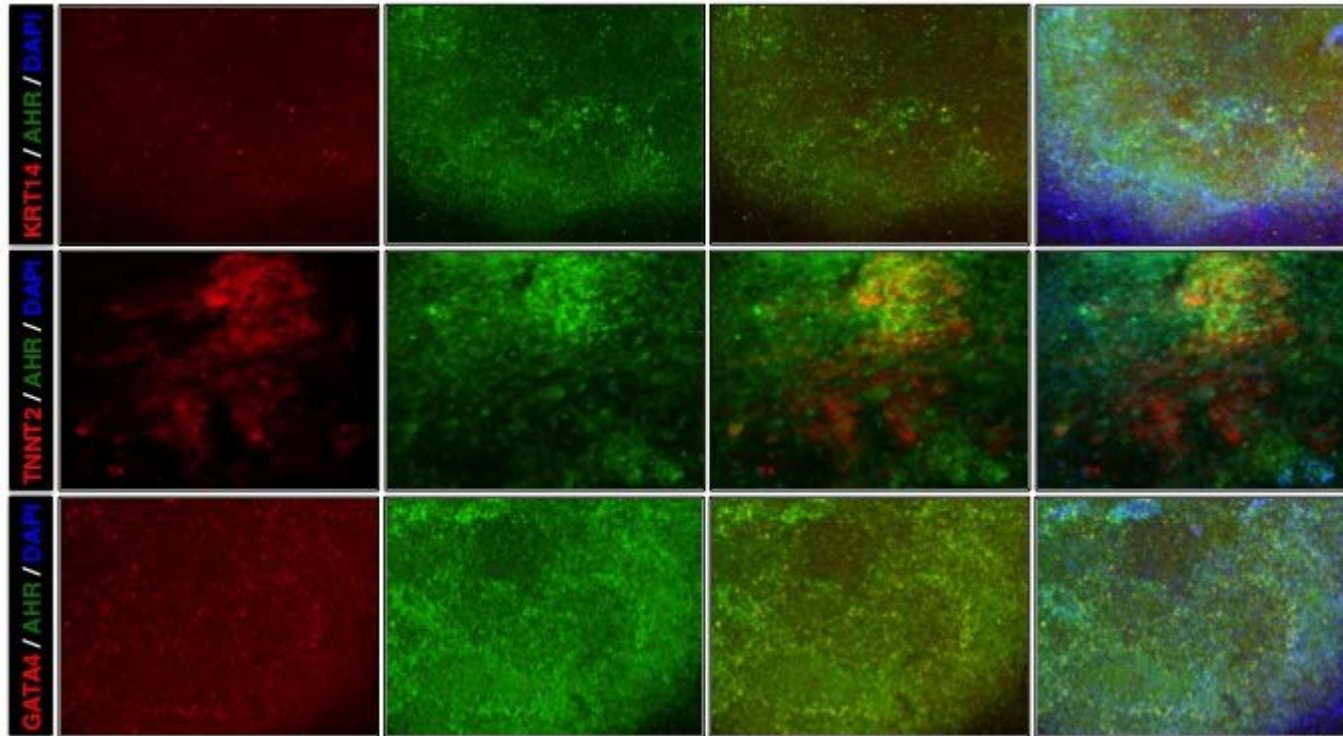
**Supplemental Table S1 –List of antibodies used in our analyses.**

<b>Target antigen</b>	<b>Company</b>	<b>Catalog number</b>
AHR	Enzo, Farmingdale, NY, USA	SA-210
$\beta$ Actin	Sigma-Aldrich, St. Louis, MO, USA	A1978
EZH2	Active Motif, Carlsbad, CA, USA	39901
GATA4	Santa Cruz Biotechnology, Dallas, TX, USA	sc-9053
H3ac	Upstate, Billerica, MA, USA	06-599
H3K27ac	Abcam, Cambridge, MA, USA	ab-4729
H3K27me1	Upstate	07-448
H3K27me2	Abcam	ab-24684
H3K27me3	Upstate	07-449
H3K36me3	Abcam	ab-9050
H3K4ac	Upstate	04-539
H3K4me1	Abcam	ab-8895
H3K4me2	Upstate	07-030
H3K4me3	Upstate	04-745
H3K9ac	Upstate	07-352
H3K9me1	Upstate	07-450
H3K9me2	Upstate	17-648
H3K9me3	Upstate	07-442
KDM6A	Abcam	ab36938
KDM6B	Abcam	ab38113
KRT14	NeoMarkers, New York, NY, USA	RB-9020-P0
MLL	Millipore, Billerica, MA, USA	05-765
NANOG	Millipore	ab-5731
normal rabbit IgG	Santa Cruz Biotechnology	sc-2027
normal mouse IgG	Santa Cruz Biotechnology	sc-2025
OCT3/4	Santa Cruz Biotechnology	sc-9081
RING1B	Abcam	Ab3832
RNAPII-S2pS5p	Covance, Greenfield, IN, USA	MMS-129R
RNAPII-S5p	Upstate	05-623
RNAPII-S7p	Active Motif	61087
SOX2	Cell Signaling, Danvers, MA, USA	2748
Sp1	Santa Cruz Biotechnology	sc-59X
Sp3	Santa Cruz Biotechnology	sc-644X
SUZ12	Millipore	CS203201
TNNT2	NeoMarkers	MS-295-P1

**Supplemental Table S2 – PCR primer sequences, designation and location.**

Primer		Forward Sequence	Reverse Sequence	PCR Amplicon Size (bp)
<b><u>ChIP assays</u></b>				
<u>Designation in Figures</u>	<u>Coordinates (bp from TSS)</u>			
-3.0 kb	-3,070 / -2,930	GGAGACGTGGAGATGTTTGG	CCTGCTGAGAGTTGCCTTTT	141
-2.0 kb	-1,985 / -1,896	ACCCACAGGGCATCACCACAC	TGGGGCAACCTGTGAGGTAGAAA	90
-0.5 kb	-522 / -373	TCTGATGGAGGAAACGATGT	AACTGCGACTGGAGAGCATT	150
-0.16 kb	-201 / -137	ACCACCCACCCCAAGAAC	CCCACCTCTTCGCAGCACG	65
+0.14 kb	+78 / +191	ACTGGTGGACGGACTCGGGG	CGGTCCCAGGGGTCAGGAGG	114
+30.4 kb	+30,309 / +30,430	CCGTGAGCAAGTGCGGGAGT	TGAGGGGCCCGCCAGAGAGTG	122
+34.5 kb	+34,322 / +34,392	TCGTCCGACTTGAGCAGCATTGG	CGGGCTTCCGCCAGGTGATG	71
<b><u>mRNA qRT PCR Analyses</u></b>				
Gapdh		AACTTTGGCATTGTGGAAGG	GGATGCAGGGATGATGTTCT	132
Mature Ahr mRNA (Set F)		GGCCAAGAGCTTCTTTGAATG	TGCCAGTCTCTGATTTGTGC	93
Cyp1a1		GTGTCTGGTTACTTTGACAAGTGG	AACATGGACATGCAAGGACA	199
Oct3/4		GGCGTTCTCTTTGGAAAGGTGTTT	CTCGAACCACATCCTTCTCT	313
Nanog		AGGGTCTGCTACTGAGATGCTCTG	CAACCACTGGTTTTTCTGCCACCG	364
Nestin		GCCAGCACTCCCATCCCACC	AGCCTGTTGCCTCCCACCCTG	108
Notch1		TCTGCTTATGCCTCAAGGGAACCA	AATCTTGTCCAGACAGGTGCCAGA	101
T		TGCTGCAGTCCCATGATAACTGGT	ACCATTGCTCACAGACCAGAGACT	131
Hand2		CCAAGGACGACCAGAACG	GCTCTCCTCTTCTTCACTGCTT	201
Tnnt2		CGGAAGAGTGGGAAGAGACA	TTTCGTATTTCTGCTGCTTGAA	143
Foxa2		AAGTATGCTGGGAGCCGTGAAGAT	CGCGGACATGCTCATGTATGTGT	148
Gata4		TCTCACTATGGGCACAGCAG	GCGATGTCTGAGTGACAGGA	136
<b><u>Short Ahr mRNA transcripts</u></b>				
Set A		GTGTGTGCGCTCCCTTTG	ACACGCGTGGGGCACCGA	39

Set B	GTGTGTGCGCTCCCTTTG	CCTCTCCGGGACACGCGT	50
Set C	GTGTGTGCGCTCCCTTTG	CCCCGAGTCCGTCCACCAGT	97
Set D	TGCGCTCCCTTTGACGCTCG	GGAGGGGCCGCAGTGCTCTA	91
Set E	CAGCGGCGCCAACATCACCT	AGGCTGGCCAGGCGGTCTAA	150



**Supplemental Fig. S1. Expression of germ cell markers.** Keratin 14 (ectoderm), troponin-T (mesoderm), Gata4 (endoderm), and their co-localization with AHR were visualized by immunostaining with specific primary antibodies. Nuclei were stained with Hoechst and micrographs were taken at 20X magnification.