

Table S5. Mechanisms and interactions effects among transcription factors and other molecules which participate in the GO Cell Differentiation network, using the analyze network (TF) algorithm by Metacore™ (Clarivate Analytics) [https://portal.genego.com/] from downregulated DEGs based on FDR<0.05 list between broilers (TT) and layers (CC) lines.

Interactions Report

From		To						From	DEGs Downregulated FDR<0.05	To	DEGs Downregulated FDR<0.05
Network Object "FROM"	Object Type	Network Object "TO"	Object Type	Interaction Effects	Mechanism	Link Info	References (PMID)	Input IDs	Fold Change	Input IDs	Fold Change
CREB1	Transcription factor	WISP1	Generic binding protein	Activation	Transcription regulation	WISP1 promoter has a putative CREB1-binding site.	15753290;18481207;19238344;19339243			WISP1	-1.17
CREB1	Transcription factor	TSH receptor	GPCR	Unspecified	Transcription regulation	TSH receptor promoter has a putative CREB1-binding site.	15753290			TSHR	-1.13
Androgen receptor	Transcription factor	Clusterin	Generic binding protein	Activation	Transcription regulation	Androgen receptor can bind to gene Clusterin promoter and activates Clusterin expression.	7999255;17148459;17299418;2383394;23476140;23715282	AR	-0.44198	TRPM2	-1.07
CREB1	Transcription factor	TRPM2	Generic channel	Unspecified	Transcription regulation	TRPM2 promoter has a putative CREB1-binding site.	15708008;15753290			TRPM2	-1.07
Androgen receptor	Transcription factor	TRPM2	Generic channel	Unspecified	Transcription regulation	Androgen receptor can bind to gene TRPM2 promoter.	17679089;33640491	AR	-0.44198	TRPM2	-1.07
SMAD3	Transcription factor	MSX-2	Transcription factor	Unspecified	Transcription regulation	SMAD3 regulates transcription of MSX-2.	30042129			MSX2	-1.05
CREB1	Transcription factor	MSX-2	Transcription factor	Unspecified	Transcription regulation	MSX-2 promoter has a putative CREB1-binding site.	15459107;15753290			MSX2	-1.05
Androgen receptor	Transcription factor	MSX-2	Transcription factor	Unspecified	Transcription regulation	Androgen receptor probably regulates gene MSX2 transcription.	20634343;33640491	AR	-0.44198	MSX2	-1.05
SMAD3	Transcription factor	CX3CR1	GPCR	Activation	Transcription regulation	SMAD3 activates transcription of CX3CR1.	29234059			CX3CR1	-1.02
Androgen receptor	Transcription factor	TGM3	Generic enzyme	Unspecified	Transcription regulation	Using the MNI algorithm, we identified TGM3 as AR downstream target gene in the AR pathway.	17299418	AR	-0.44198	TGM3	-1.01
Androgen receptor	Transcription factor	NCAM2	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor regulates transcription of NCAM2.	27221037	AR	-0.44198	NCAM2	-0.98
SMAD3	Transcription factor	FSHR	GPCR	Activation	Transcription regulation	SMAD3 binds to the FSHR promoter and activates it.	19535790;23690627;24979474			FSHR	-0.98
Androgen receptor	Transcription factor	FSHR	GPCR	Activation	Transcription regulation	Androgen receptor activates transcription of FSHR.	14551232;15761038;25941928;33662476	AR	-0.44198	FSHR	-0.98
CREB1	Transcription factor	DLX3	Transcription factor	Unspecified	Transcription regulation	DLX3 promoter has a putative CREB1-binding site.	15753290;33846571			DLX3	-0.96
Androgen receptor	Transcription factor	PTPRR	Protein phosphatase	Inhibition	Transcription regulation	Using the MNI algorithm, we identified PTPRR as AR downstream target gene in the AR pathway.	17299418;25592066	AR	-0.44198	PTPRQ	-0.92
ATF-2	Transcription factor	Histone H4	Generic binding protein	Activation	Covalent modification	ATF-2 covalently modifies Histone H4 and activates it.	10821277			HIST1H4I	-0.92

HDAC2	Generic enzyme	Histone H4	Generic binding protein	Unspecified	Deacetylation	HDAC2 deacetylates Histone H4.	10958685;22441348;22579787;24102378;27568559;27568567			HIST1H4I	-0.92
p300	Generic enzyme	Histone H4	Generic binding protein	Unspecified	Covalent modification	p300 acetylates Histone H4	8945521;9726987;10025405;10497301;10921904;11163245;11511360;11559745;11940655;12052856;12609999;15289617;15834423;15932940;16325578;17267393;17300219;17320507;18397880;21315607;21789216;23303459			HIST1H4I	-0.92
CBP	Generic enzyme	Histone H4	Generic binding protein	Unspecified	Acetylation	CBP acetylates Histone H4.	8945521;9823900;10497301;11134336;11163245;11559745;11607014;12609999;12665567;12748280;17267393;17320507;21315607;21789216;23831576;24748101;27934968;31801086			HIST1H4I	-0.92
CREB1	Transcription factor	Histone H4	Generic binding protein	Activation	Transcription regulation	CREB1 can bind to gene Histone H4 promoter and activates Histone H4 expression.	9398163;15753290			HIST1H4I	-0.92
SMAD3	Transcription factor	BAFF(TNFSF13B)	Receptor ligand	Activation	Transcription regulation	SMAD3 binds to gene BAFF(TNFSF13B) promoter and promotes BAFF(TNFSF13B) expression.	18334541			TNFSF13B	-0.88
CREB1	Transcription factor	PCSK9	Generic protease	Unspecified	Transcription regulation	PCSK9 promoter has a putative CREB1-binding site.	15753290;33846571			PCSK9	-0.87
CREB1	Transcription factor	Tenascin-R	Generic binding protein	Unspecified	Transcription regulation	Tenascin-R promoter has a putative CREB1-binding site.	9925948;12927810;15753290			TNR	-0.86
Androgen receptor	Transcription factor	PARD3	Generic binding protein	Unspecified	Transcription regulation	PARD3 is a possible transcriptional target of Androgen receptor.	19668381	AR	-0.44198	ASIP	-0.85
CREB1	Transcription factor	PARD3	Generic binding protein	Unspecified	Transcription regulation	PARD3 promoter has a putative CREB1-binding site.	15753290			ASIP	-0.85
ATF/CREB	Transcription factor	NTN4	Generic binding protein	Unspecified	Transcription regulation	ATF/CREB regulates transcription of NTN4.	32871102	BATF	-0.686649	NTN4	-0.83
CREB1	Transcription factor	HOXA7	Transcription factor	Unspecified	Transcription regulation	HOXA7 promoter has a putative CREB1-binding site.	7890170;15753290			HOXA9	-0.83

ATF-2	Transcription factor	Galectin-1	Receptor ligand	Unspecified	Transcription regulation	ATF-2 regulates transcription of Galectin-1.	33599733			GAL	-0.82
Androgen receptor	Transcription factor	CD109	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor regulates transcription of CD109.	33687952	AR	-0.44198	CD109	-0.80
SMAD3	Transcription factor	CCR7	GPCR	Unspecified	Transcription regulation	SMAD3 probably regulates transcription of CCR7 in human B-cell lymphoma.	18277385;25961925			CCR7	-0.79
Androgen receptor	Transcription factor	C3	Generic binding protein	Inhibition	Transcription regulation	Androgen receptor inhibits transcription of C3.	10395065;26468082	AR	-0.44198	C3	-0.78
SMAD3	Transcription factor	Myocardin	Transcription factor	Activation	Transcription regulation	Smad2/3 and Smad4 bind and activate the gene Myocardin promoter.	16224064;21673106;32029901			MYOCD	-0.78
Androgen receptor	Transcription factor	DSCAM	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor binds to gene DSCAM promoter.	19668381	AR	-0.44198	DSCAM	-0.75
CREB1	Transcription factor	AP180	Generic binding protein	Unspecified	Transcription regulation	AP180 promoter has a putative CREB1-binding site.	15753290			SNAP91	-0.72
Androgen receptor	Transcription factor	STMN2	Generic binding protein	Unspecified	Transcription regulation	Using the MNI algorithm, we identified STMN2 as AR downstream gene in the AR pathway.	17299418	AR	-0.44198	STMN2	-0.72
HDAC2	Generic enzyme	BATF	Transcription factor	Unspecified	Transcription regulation	HDAC2 co-regulates transcription of BATF.	32796851			BATF	-0.69
p300	Generic enzyme	BATF	Transcription factor	Unspecified	Transcription regulation	p300 co-regulates transcription of BATF.	32871225			BATF	-0.69
CREB1	Transcription factor	BATF	Transcription factor	Unspecified	Transcription regulation	BATF promoter has a putative CREB1-binding site.	15753290;18077348			BATF	-0.69
CREB1	Transcription factor	SFRP4	Generic binding protein	Unspecified	Transcription regulation	SFRP4 promoter has a putative CREB1-binding site.	12974383;15753290			SFRP4	-0.67
CREB1	Transcription factor	CYP26C1	Generic enzyme	Unspecified	Transcription regulation	CYP26C1 promoter has a putative CREB1-binding site.	15753290			CYP26C1	-0.66
CREB1	Transcription factor	RXRA	Transcription factor	Unspecified	Transcription regulation	RXRA promoter has a putative CREB1-binding site.	15753290			RXRA	-0.65
Androgen receptor	Transcription factor	ABCA12	Transporter	Unspecified	Transcription regulation	Androgen receptor regulates transcription of ABCA12.	33640491	AR	-0.44198	ABCA12	-0.63
CREB1	Transcription factor	ABCA12	Transporter	Unspecified	Transcription regulation	ABCA12 promoter has a putative CREB1-binding site.	15753290			ABCA12	-0.63
CREB1	Transcription factor	Sciellin	Generic binding protein	Unspecified	Transcription regulation	Sciellin promoter has a putative CREB1-binding site.	15753290;33846571			SCEL	-0.63
CREB1	Transcription factor	MYO3A	Generic kinase	Unspecified	Transcription regulation	MYO3A promoter has a putative CREB1-binding site.	15753290			MYO3A	-0.62
CREB1	Transcription factor	ALKBH1	Generic enzyme	Unspecified	Transcription regulation	ALKBH1 promoter has a putative CREB1-binding site.	15753290			ALKBH1	-0.59
Androgen receptor	Transcription factor	ALKBH1	Generic enzyme	Unspecified	Transcription regulation	Androgen receptor regulates transcription of ALKBH1.	24027196	AR	-0.44198	ALKBH1	-0.59
CREB1	Transcription factor	PTP-2	Generic receptor	Unspecified	Transcription regulation	PTP-2 promoter has a putative CREB1-binding site.	15753290;33846571			PTPRO	-0.58
CREB1	Transcription factor	TESC	Generic binding protein	Unspecified	Transcription regulation	TESC promoter has a putative CREB1-binding site.	15753290			TESC	-0.57
Androgen receptor	Transcription factor	Alpha-actinin 2	Generic binding protein	Unspecified	Transcription regulation	Using the MNI algorithm, we identified Alpha-actinin 2 as AR downstream gene in the AR pathway.	15072553;17299418	AR	-0.44198	ACTN2	-0.57

Androgen receptor	Transcription factor	EPHA10	Receptor with enzyme activity	Unspecified	Transcription regulation	Androgen receptor binds to gene EPHA10 promoter.	19668381	AR	-0.44198	EPHA10	-0.52
Androgen receptor	Transcription factor	SMAD6	Transcription factor	Unspecified	Transcription regulation	Androgen receptor regulates transcription of SMAD6.	33640491	AR	-0.44198	SMAD6	-0.52
CREB1	Transcription factor	SMAD6	Transcription factor	Activation	Transcription regulation	CREB1 binds to gene SMAD6 promoter and activates SMAD6 expression.	14755548			SMAD6	-0.52
p300	Generic enzyme	Histone H3.2	Generic binding protein	Unspecified	Acetylation	Histone H3.2 is acetylated by p300.	16096645;21669532			HIST2H3D	-0.52
HDAC2	Generic enzyme	Histone H3	Generic binding protein	Unspecified	Deacetylation	HDAC2 deacetylates Histone H3 tails.	7819;22579787;24102378;24935000;26934447;26980768;30979734;32315286;33082288;34242623			HIST2H3D	-0.52
CBP	Generic enzyme	Histone H3	Generic binding protein	Unspecified	Acetylation	CBP/P300 acetylates Histone H3.	8945521;10497301;11134336;11559745;11607014;12609999;12665567;15141169;15616580;16122695;17320507;19270680;19631660;21315607;23434580;24748101;27934968;28953875;31182547;31801086			HIST2H3D	-0.52

p300	Generic enzyme	Histone H3	Generic binding protein		Covalent modification	p300 acetylates Histone H3.	8945521;9726987;10025405;10497301;10921904;11511360;11559745;11940655;12609999;15141169;15289617;15834423;15932940;16109717;16987993;17300219;17320507;18697823;19270680;19652528;20065107;20587414;20676058;21315607;21378166;22893703;23390536;26082460;26229107;28953875;30150647;30858153;31150057;31152160;31659122;33164305;33172955;33361394;33578969			HIST2H3D	-0.52
CREB1	Transcription factor	PHF15	Generic binding protein	Unspecified	Transcription regulation	PHF15 promoter has a putative CREB1-binding site.	15753290;17192397			JADE2	-0.51
Androgen receptor	Transcription factor	Gas6	Receptor ligand	Activation	Transcription regulation	Androgen-dependent Gas6 Promoter Activity is Mediated by Binding of AR to ARE.	20048160	AR	-0.44198	GAS6	-0.51
CREB1	Transcription factor	DGK-gamma	Lipid kinase	Unspecified	Transcription regulation	Diacylglycerol kinase, gamma promoter has a putative CREB1-binding site.	15753290			DGKG	-0.51
Androgen receptor	Transcription factor	Neurabin-1	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor binds to gene Neurabin-1 promoter.	19668381	AR	-0.44198	PPP1R9A	-0.51
CREB1	Transcription factor	Neurabin-1	Generic binding protein	Unspecified	Transcription regulation	Neurabin-1 promoter has a putative CREB1-binding site.	15753290			PPP1R9A	-0.51
CREB1	Transcription factor	JARID2	Transcription factor	Unspecified	Transcription regulation	JARID2 promoter has a putative CREB1-binding site.	15753290			JARID2	-0.50
Androgen receptor	Transcription factor	LIPIN1	Generic binding protein	Unspecified	Transcription regulation	Using the MNI algorithm, we identified LIPIN1 as AR downstream target gene in the AR pathway.	17299418	AR	-0.44198	LPIN1	-0.48
CREB1	Transcription factor	IFNGR1	Generic receptor	Unspecified	Transcription regulation	IFNGR1 promoter has a putative CREB1-binding site.	7890167;9089099;15753290;22182699			IFNGR1	-0.47
Androgen receptor	Transcription factor	IFNGR1	Generic receptor	Unspecified	Transcription regulation	Androgen receptor regulates transcription of IFNGR1.	33640491	AR	-0.44198	IFNGR1	-0.47
CREB1	Transcription factor	ITM2C	Generic binding protein	Unspecified	Transcription regulation	ITM2C promoter has a putative CREB1-binding site.	15753290			ITM2C	-0.47
CREB1	Transcription factor	TCTN1	Voltage-gated ion channel	Unspecified	Transcription regulation	TCTN1 promoter has a putative CREB1-binding site.	15753290			TCTN1	-0.46

CREB1	Transcription factor	COL9A1	Generic binding protein	Unspecified	Transcription regulation	CREB1 regulates transcription of COL9A1.	23762244			COL9A1	-0.45
CREB1	Transcription factor	Presenilin 1	Generic protease	Unspecified	Transcription regulation	Presenilin 1 promoter has a putative CREB1-binding site.	11116137;12444985;15753290;29269871			PSEN1	-0.44
CREB1	Transcription factor	Androgen receptor	Transcription factor	Activation	Transcription regulation	Androgen receptor is a CREB1 target gene	21403841			AR	-0.44
p300	Generic enzyme	Androgen receptor	Transcription factor	Activation	Covalent modification	p300 acetylated the AR at a highly conserved lysine-rich motif carboxyl-terminal to the zinc finger DNA-binding domain. AR activity is induced by p300.	10529898;10779504;11971970;14612401;16289629;16434977;16598769;16713569;17163421;18612376;21572438;22518120;23172223;23518348;24480624;28473532;28549433;30317630;32668201;34158377			AR	-0.44
HDAC2	Generic enzyme	Androgen receptor	Transcription factor	Unspecified	Transcription regulation	HDAC2 co-regulates transcription of Androgen receptor.	22531786;24292680;30124873;31843555			AR	-0.44
Androgen receptor	Transcription factor	Androgen receptor	Transcription factor	Unspecified	Transcription regulation	Androgen receptor regulates transcription of Androgen receptor.	15634333;21701558;22014572;24722067;24895212;25296973;25552417;26336819;28925401;30217192;31135075;32278794;32745318;33277366;34127806;34256096	AR	-0.44198	AR	-0.44
Androgen receptor	Transcription factor	SELENBP1	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor regulates transcription of SELENBP1.	1540595;17721441;33640491	AR	-0.44198	SELENBP1	-0.44
SMAD3	Transcription factor	OSF-2	Receptor ligand	Unspecified	Transcription regulation	SMAD3 regulates transcription of OSF-2 in response to TGF-beta stimulation.	17540359;18277385;27872089;32451392			POSTN	-0.44
CREB1	Transcription factor	OSF-2	Receptor ligand	Activation	Transcription regulation	CREB1 activates transcription of OSF-2.	18277385;21367774;30946695			POSTN	-0.44
Androgen receptor	Transcription factor	OSF-2	Receptor ligand	Inhibition	Transcription regulation	Androgen receptor inhibits transcription of OSF-2.	17299418;30395538	AR	-0.44198	POSTN	-0.44
CREB1	Transcription factor	A-Myb	Transcription factor	Unspecified	Transcription regulation	CREB1 regulates transcription of A-Myb.	23762244;33846571			MYBL1	-0.43
ATF/CREB	Transcription factor	MYH11	Generic binding protein	Activation	Transcription regulation	ATF/CREB activates transcription of MYH11.	21680899	BATF	-0.686649	MYH11	-0.42
Androgen receptor	Transcription factor	MYH11	Generic binding protein	Unspecified	Transcription regulation	Using the MNI algorithm, we identified MYH11 as AR downstream target gene in the AR pathway.	17299418	AR	-0.44198	MYH11	-0.42

Androgen receptor	Transcription factor	BAIAP2	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor binds to gene BAIAP2 promoter.	19668381	AR	-0.44198	BAIAP2	-0.38
CREB1	Transcription factor	BAIAP2	Generic binding protein	Unspecified	Transcription regulation	BAIAP2 promoter has a putative CREB1-binding site.	15753290;24760838			BAIAP2	-0.38
Androgen receptor	Transcription factor	NPNT	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor regulates transcription of NPNT.	33640491	AR	-0.44198	NPNT	-0.37
CREB1	Transcription factor	Chordin	Generic binding protein	Unspecified	Transcription regulation	Chordin promoter has a putative CREB1-binding site.	15753290			CHRD	-0.37
Androgen receptor	Transcription factor	Cingulin	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor regulates transcription of Cingulin.	33640491	AR	-0.44198	CGN	-0.36
CREB1	Transcription factor	Cingulin	Generic binding protein	Unspecified	Transcription regulation	Cingulin promoter has a putative CREB1-binding site.	15753290			CGN	-0.36
CREB1	Transcription factor	Tropomodulin-2	Generic binding protein	Unspecified	Transcription regulation	Tropomodulin-2 promoter has a putative CREB1-binding site.	15753290			TMOD2	-0.35
CREB1	Transcription factor	APOER2	Generic receptor	Unspecified	Transcription regulation	APOER2 promoter has a putative CREB1-binding site.	15753290			LRP8	-0.35
Androgen receptor	Transcription factor	PI3K cat class IA (p110-delta)	Lipid kinase	Unspecified	Transcription regulation	Androgen receptor regulates transcription of PI3K cat class IA (p110-delta).	21909140	AR	-0.44198	PIK3CD	-0.34
Androgen receptor	Transcription factor	CD166	Generic binding protein	Unspecified	Transcription regulation	Using the MNI algorithm, we identified CD166 as AR downstream target gene in the AR pathway.	17299418;21701558;33640491	AR	-0.44198	ALCAM	-0.34
CREB1	Transcription factor	KIF5C	Generic binding protein	Unspecified	Transcription regulation	KIF5C promoter has a putative CREB1-binding site.	15753290			KIF5C	-0.30
CREB1	Transcription factor	Cathepsin B	Generic protease	Unspecified	Transcription regulation	CREB1 probably regulates transcription of Cathepsin B in human B-cell lymphoma.	10190277;17724614;18277385			CTSB	-0.30
Androgen receptor	Transcription factor	AATK	Protein kinase	Unspecified	Transcription regulation	Androgen receptor regulates transcription of AATK.	25781993	AR	-0.44198	AATK	-0.30
CREB1	Transcription factor	Calcipressin 1	Generic binding protein	Activation	Transcription regulation	Calcipressin 1 promoter has a putative CREB1-binding site.	15753290;21216952;26157140			RCAN1	-0.28
Androgen receptor	Transcription factor	Tiam1	Regulators (GDI, GAP, GEF)	Unspecified	Transcription regulation	Androgen receptor binds to gene Tiam1 promoter.	19668381	AR	-0.44198	TIAM1	-0.28
SMAD3	Transcription factor	Axin2	Generic binding protein	Activation	Transcription regulation	SMAD3 activates transcription of Axin2.	20097766;29269485;30042129			AXIN2	-0.25
CREB1	Transcription factor	Sin3A	Generic binding protein	Unspecified	Transcription regulation	Sin3A promoter has a putative CREB1-binding site.	15753290			SIN3A	-0.24
CREB1	Transcription factor	Cosmc	Generic enzyme	Unspecified	Transcription regulation	Cosmc promoter has a putative CREB1-binding site.	15753290			C1GALT1C1	-0.23
Histone H4	Generic binding protein	BMP7	Receptor ligand	Unspecified	Transcription regulation	Histone H4 co-regulates transcription of BMP7.	17135397	HIST1H4I	-0.915472	BMP7	-0.23
HDAC2	Generic enzyme	BMP7	Receptor ligand	Inhibition	Transcription regulation	HDAC2 co-inhibits transcription of BMP7.	29072686			BMP7	-0.23
p300	Generic enzyme	BMP7	Receptor ligand	Activation	Transcription regulation	p300 occupies the gene BMP7 enhancer region.	22981823			BMP7	-0.23
CREB1	Transcription factor	FOXN2	Transcription factor	Unspecified	Transcription regulation	FOXN2 promoter has a putative CREB1-binding site.	15753290			FOXN2	-0.22
CREB1	Transcription factor	CaMK II delta	Protein kinase	Unspecified	Transcription regulation	CaMK II delta promoter has a putative CREB1-binding site.	15753290			CAMK1	-0.21

ATF-2	Transcription factor	CaMK II delta	Protein kinase	Unspecified	Transcription regulation	ATF-2 regulates transcription of CaMK II delta.	29360953			CAMK1	-0.21
CREB1	Transcription factor	OSBP2	Protein	Unspecified	Transcription regulation	OSBP2 was identified as CREB1 target gene by chromatin immunoprecipitation and RT-PCR.	15082775			OSBP2	-0.21
CREB1	Transcription factor	HEY1	Transcription factor	Unspecified	Transcription regulation	HEY1 promoter has a putative CREB1-binding site.	15753290			HEY1	-0.20
SMAD3	Transcription factor	HEY1	Transcription factor	Activation	Transcription regulation	TGF-beta induces rapid in vivo binding of endogenous Smad3/Smad4 protein complexes with SCR elements in the HEY1 promoter and increase its mRNA.	14976548;15231748;16189514;19473993			HEY1	-0.20
CREB1	Transcription factor	E2F4	Transcription factor	Activation	Transcription regulation	CREB1 activates transcription of E2F4.	15753290;27211267			E2F4	-0.20
CREB1	Transcription factor	BTG1	Generic binding protein	Activation	Transcription regulation	CREB1 binds to gene BTG1 promoter and activates BTG1 expression.	15753290;17353275;27188441			BTG1	-0.18
Androgen receptor	Transcription factor	LIMK2	Protein kinase	Unspecified	Transcription regulation	Androgen receptor regulates transcription of LIMK2.	17721441;33640491	AR	-0.44198	LIMK2	-0.17
Androgen receptor	Transcription factor	PTK9L	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor binds to gene PTK9L promoter.	19668381	AR	-0.44198	TWF2	-0.17
CREB1	Transcription factor	NUP133	Transporter	Unspecified	Transcription regulation	NUP133 promoter has a putative CREB1-binding site.	15753290;20920259			NUP133	-0.16
CREB1	Transcription factor	HOXD11	Transcription factor	Unspecified	Transcription regulation	HOXD11 promoter has a putative CREB1-binding site.	15753290			HOXD11	-2.78
COUP-TFII	Transcription factor	HOXD11	Transcription factor	Unspecified	Transcription regulation	ARP-1/COUP-TFII binds to Hoxd11 region IX.	8824591	COUP-TFII		HOXD11	-2.78
SMAD3	Transcription factor	HOXD11	Transcription factor	Activation	Transcription regulation	SMAD3 activates transcription of HOXD11.	24016758			HOXD11	-2.78
Androgen receptor	Transcription factor	HOXD11	Transcription factor	Unspecified	Transcription regulation	Androgen receptor binds to gene HOXD11 promoter.	19668381	AR	-0.44198	HOXD11	-2.78
CREB1	Transcription factor	HOXA11	Transcription factor	Unspecified	Transcription regulation	HOXA11 promoter has a putative CREB1-binding site.	15753290			HOXA11;HOXA10	-2.60
Androgen receptor	Transcription factor	HOXA11	Transcription factor	Unspecified	Transcription regulation	Androgen receptor binds to gene HOXA11 promoter.	19668381	AR	-0.44198	HOXA11;HOXA10	-2.60
CREB1	Transcription factor	HOXA2	Transcription factor	Unspecified	Transcription regulation	HOXA2 promoter has a putative CREB1-binding site.	15753290			HOXA11	-2.60
CREB1	Transcription factor	GSC	Transcription factor	Unspecified	Transcription regulation	GSC promoter has a putative CREB1-binding site.	15753290			GSC	-2.21
SMAD3	Transcription factor	GSC	Transcription factor	Activation	Transcription regulation	SMAD3 activates transcription of GSC.	9702197;9865691;10660041;10712925;10775259;15761153;21245162;21741376;22196728;25805847;31582430;31915377			GSC	-2.21
CREB1	Transcription factor	HOXA10	Transcription factor	Inhibition	Transcription regulation	CREB1 inhibits transcription of HOXA10.	15753290;26840046			HOXA10	-1.93

p300	Generic enzyme	CD44	Generic receptor	Activation	Transcription regulation	p300 binds to CD44 promoter after LPS treatment.	20206554			CD44	-1.49
Androgen receptor	Transcription factor	CD44	Generic receptor	Unspecified	Transcription regulation	Androgen receptor regulates transcription of CD44.	17721441;20200161;21865353;24981513;31719098;32587378;33323967;33687952	AR	-0.44198	CD44	-1.49
CREB1	Transcription factor	HDAC2	Generic enzyme	Activation	Transcription regulation	CREB1 activates transcription of HDAC2.	33725236;33846571				
p300	Generic enzyme	CBP	Generic enzyme	Inhibition	Transcription regulation	The adenoviral protein E1A disrupts interaction of CBP and SRCAP.	9267036;10347196;19698979;24607903;30220457;33602823				
HDAC2	Generic enzyme	BDNF	Receptor ligand	Inhibition	Transcription regulation	HDAC2 coregulates and suppresses BDNF promoter	19424149;22388814;25209292;25242807;27534825;27626660;30504275;31641124				
CREB1	Transcription factor	XIAP	Generic binding protein	Activation	Transcription regulation	XIAP promoter has a putative CREB1-binding site.	15753290;22740515				
CREB1	Transcription factor	H-Ras	RAS - superfamily	Unspecified	Transcription regulation	H-Ras promoter has a putative CREB1-binding site.	15753290				
CBP	Generic enzyme	SMAD3	Transcription factor	Activation	Covalent modification	CBP covalently modifies SMAD3 and activates it.	9679060;10497242;15467747;15750622;15849193;15990875;16862174;16959941;17074756;17283070;18003620;19589780;20110770;25416030;26029993;29489750				
p300	Generic enzyme	NGFR(TNFR SF16)	Generic receptor	Unspecified	Transcription regulation	p300 co-regulates transcription of NGFR(TNFRSF16).	29431744				
BATF	Transcription factor	TGF-beta receptor type III (betaglycan)	Receptor with enzyme activity	Unspecified	Transcription regulation	BATF regulates transcription of TGF-beta receptor type III (betaglycan).	24584090	BATF	-0.686649		
Androgen receptor	Transcription factor	TAB1	Generic binding protein	Unspecified	Transcription regulation	TAB1 was identified as Androgen receptor novel target gene by chromatin immunoprecipitation analysis and RT-PCR.	17553165	AR	-0.44198		
HDAC2	Generic enzyme	Histone H3.1	Generic binding protein	Unspecified	Deacetylation	HDAC2 deacetylates Histone H3.1.	29317660				

HDAC2	Generic enzyme	EGFR	Receptor with enzyme activity	Inhibition	Transcription regulation	ZIP and the NuRD components (RbAp46/48, HDAC1, HDAC2, Mi-2, MTA2) occupied the promoter of EGFR gene spanning the putative ZIP-binding element.	19644445				
Androgen receptor	Transcription factor	Shc	Generic binding protein	Activation	Transcription regulation	Androgen receptor activates transcription of Shc .	17699749;17721441	AR	-0.44198		
HDAC2	Generic enzyme	CREB1	Transcription factor	Unspecified	Transcription regulation	HDAC2 co-regulates transcription of CREB1.	12567184;19424149;20473547;24223142;28402861				
Androgen receptor	Transcription factor	CREB1	Transcription factor	Activation	Transcription regulation	Androgen receptor activates transcription of CREB1.	27967242;33640491	AR	-0.44198		
p300	Generic enzyme	EGFR	Receptor with enzyme activity	Activation	Transcription regulation	p300 co-activates transcription of EGFR.	15601870;24722339;30914776;32424275;32759223				
Androgen receptor	Transcription factor	TGF-beta receptor type III (betaglycan)	Receptor with enzyme activity	Inhibition	Transcription regulation	Androgen receptor inhibits TGFBR3 gene transcription.	10706107;21602788	AR	-0.44198		
CREB1	Transcription factor	Histone H3.1	Generic binding protein	Unspecified	Transcription regulation	CREB1 regulates transcription of Histone H3.1.	15753290				
CREB1	Transcription factor	MEK3(MAP2 K3)	Protein kinase	Unspecified	Transcription regulation	MEK3(MAP2K3) promoter has a putative CREB1-binding site.	15753290				
CREB1	Transcription factor	MEK1(MAP2 K1)	Protein kinase	Unspecified	Transcription regulation	MEK1(MAP2K1) promoter has a putative CREB1-binding site.	15753290				
CREB1	Transcription factor	MEK2(MAP2 K2)	Protein kinase	Unspecified	Transcription regulation	MEK2(MAP2K2) promoter has a putative CREB1-binding site.	15753290				
HDAC2	Generic enzyme	SMAD3	Transcription factor	Unspecified	Transcription regulation	HDAC2 co-regulates transcription of SMAD3.	26354229				
CREB1	Transcription factor	ActRIIB	Receptor with enzyme activity	Unspecified	Transcription regulation	CREB1 regulates transcription of ActRIIB .	15753290;17936724				
CREB1	Transcription factor	BMP receptor 2	Receptor with enzyme activity	Unspecified	Transcription regulation	BMP receptor2 promoter has a putative CREB1-binding site.	15753290				
Histone H3	Generic binding protein	BDNF	Receptor ligand	Unspecified	Transcription regulation	Histone H3 co-regulates transcription of BDNF.	19038219				
SMAD3	Transcription factor	TGF-beta receptor type III (betaglycan)	Receptor with enzyme activity	Inhibition	Transcription regulation	SMAD3 is proposed to downregulate transcription of Betaglycan.	12399463				
CBP	Generic enzyme	XIAP	Generic binding protein	Activation	Transcription regulation	CBP co-activates transcription of XIAP.	24566868				
p300	Generic enzyme	BDNF	Receptor ligand	Activation	Transcription regulation	p300 co-activates transcription of BDNF.	24603592;27739595;32444594				
CREB1	Transcription factor	Histone H3.3	Generic binding protein	Unspecified	Transcription regulation	CREB1 regulates transcription of Histone H3.3.	15753290				

CREB1	Transcription factor	BDNF	Receptor ligand	Activation	Transcription regulation	CREB1 binds to gene BDNF promoter and promotes BDNF expression	9149093;12114522;14593184;15342915;15753290;16337694;16337876;17360587;17456785;18234890;18584881;19038219;19476549;19489105;19712055;20226774;20810894;21606928;22267118;22607375;22848609;23035088;23055509;23726845;23770418;23946409;24358339;24367698;25041363;25209292;25643298;26842955;27611779;30591585;31359606;31409756;31974426;33256199				
Androgen receptor	Transcription factor	MEK1(MAP2K1)	Protein kinase	Unspecified	Transcription regulation	Androgen receptor binds to gene MEK1(MAP2K1)	19668381;32934023	AR	-0.44198		
SMAD3	Transcription factor	SMAD3	Transcription factor	Unspecified	Transcription regulation	SMAD3 regulates transcription of SMAD3.	15761153;28747678;31744885;33462242;34580281				
p300	Generic enzyme	MEK6(MAP2K6)	Protein kinase	Unspecified	Transcription regulation	p300 co-regulates transcription of MEK6(MAP2K6).	29313809				
CREB1	Transcription factor	Inhibin alpha subunit	Receptor ligand	Activation	Transcription regulation	Creb1 binds and activates the promoter of inhibin-alpha gene.	15650079;22734036				
p300	Generic enzyme	ATF-2	Transcription factor	Activation	Acetylation	ATF-2 b-ZIP could serve as an acetyltransferase substrate for p300 HAT. Using mass spectrometry, two p300 HAT lysine acetylation sites were mapped in ATF-2 b-ZIP. Immunoprecipitation-western blot analysis with anti-acetyl-lysine antibody revealed that ATF-2 can undergo reversible acetylation in vivo. Mutational analysis of the two ATF-2 b-ZIP acetylation sites revealed their potential contributions to ATF-2-mediated transcriptional activation.	10327051;17590016;23153039;23800081;24069158				

CBP	Generic enzyme	BDNF	Receptor ligand	Activation	Transcription regulation	CBP coregulates and activates BDNF promoter	10000219;100116549;19712055;20811339;22043863;24603592;27010597;27626660;30850733;31641124;32444594				
HDAC2	Generic enzyme	TrkB	Receptor with enzyme activity	Unspecified	Transcription regulation	HDAC2 co-regulates transcription of TrkB.	29567811				
p300	Generic enzyme	TGF-beta receptor type III (betaglycan)	Receptor with enzyme activity	Unspecified	Transcription regulation	p300 co-regulates transcription of TGF-beta receptor type III (betaglycan).	30367089				
p300	Generic enzyme	HDAC2	Generic enzyme	Activation	Transcription regulation	p300 probably binds to HDAC2 in human B-cell lymphoma.	18277385;24948597;30737378				
Androgen receptor	Transcription factor	Histone H3.3	Generic binding protein	Unspecified	Transcription regulation	Androgen receptor regulates transcription of Histone H3.3.	33640491	AR	-0.44198		
CBP	Generic enzyme	EGFR	Receptor with enzyme activity	Activation	Transcription regulation	CBP binds EGFR promoter and coactivates transcription.	21080969;21464950;26820293				
CBP	Generic enzyme	HDAC2	Generic enzyme	Activation	Acetylation	CBP acetylates HDAC2 activating it.	10958685;20388487				
CREB1	Transcription factor	ActRIIA	Receptor with enzyme activity	Unspecified	Transcription regulation	ActRIIA promoter has a putative CREB1-binding site.	15753290				
CREB1	Transcription factor	GRB2	Generic binding protein	Unspecified	Transcription regulation	GRB2 promoter has a putative CREB1-binding site.	15753290				
CREB1	Transcription factor	TAK1(MAP3K7)	Protein kinase	Unspecified	Transcription regulation	TAK1(MAP3K7) promoter has a putative CREB1-binding site.	15753290				
ATF/CREB	Transcription factor	BDNF	Receptor ligand	Activation	Transcription regulation	ATF/CREB activates transcription of BDNF.	20814019;25392083;27010597;31915257	BATF	-0.686649		
CREB1	Transcription factor	TrkB	Receptor with enzyme activity	Activation	Transcription regulation	CREB1 can bind to gene TrkB promoter and activates TrkB expression.	10395916;15234351;15753290;24760838				
Androgen receptor	Transcription factor	TrkB	Receptor with enzyme activity	Unspecified	Transcription regulation	Androgen receptor regulates transcription of TrkB.	29567811	AR	-0.44198		
p300	Generic enzyme	p300	Generic enzyme	Unspecified	Transcription regulation	p300 co-regulates transcription of p300.	20081228;30349051				
CREB1	Transcription factor	CREB1	Transcription factor	Activation	Transcription regulation	CREB1 can bind to gene CREB1 promoter and activates CREB1 expression.	8381074;17937658;25541153;32298238				
ATF-2	Transcription factor	ATF-2	Transcription factor	Unspecified	Transcription regulation	ATF-2 can bind to gene ATF-2 promoter.	2145272				

p300	Generic enzyme	SMAD3	Transcription factor		Covalent modification	p300 interacts with Smad3 and activate it by acetylation.	9679056;9722503;9813111;9843571;9865691;10497242;10575014;10712925;10775259;11058129;11134049;11359933;12023901;14534577;15133024;15345715;15352157;15470497;15623506;15688032;15824515;15907489;16109717;16319104;16862174;16876108;17074756;17340614;17469184;18055455;18077182;18486259;19003557;19266485;19395477;20016942;20110770;20564330;20651248;21567395;23235480;24324267;25375657;25526531;25707573;26138247;26966274;28803990;29331689;29489750;29520103;30060				
Androgen receptor	Transcription factor	ATF-2	Transcription factor	Unspecified	Transcription regulation	Androgen receptor regulates transcription of ATF-2.	9920921;11518798;26052614	AR	-0.44198		

