

Supplementary Table S1: Mass Spectrometry Analysis of SIX3-containing Protein Complex

Band	Identified proteins	Peptides
230kDa	Mi-2 α /CHD3	KPTHCSECGKA QDTEALLTADSAQTK RTGCPPALLGK
220kDa	Mi-2 β /CHD4	DLSGYKGSSTPTK SDALSKELQ KGWPSGNLAR QGTNSLGLK
110kDa	LSD1/KDM1A	GETSIAECLTYLDNGV VLHAHQFLQNEYALS KNISVASCNSSQVVAVGR
83kDa	TLE1	KKHHDAEHHRDR KEEFQFLQAQYHSLK VPHAGMNGELTS DPPPHMRVPTI RAKQVTMAELNAII
83kDa	TLE2	KFSILEICDR KEDRAGVEAEGSR QPSEPPSPATTPCGK KELILNDLPAS
83kDa	TLE3	KSNTPTPRNDAPTPGTSTTPGLR VSPAHSPPENGLDK KGCVKIWDISQ DKSSTPGLKSNTPTPR VRQFQGHTDGAS
75kDa	HSP70	KATAGDTHLGGEDFDNRL RKFGDPVVQSDMK RLVNHFVEEFKRKH KNQVALNPQNTVFDKRL KNALESYAFNMKS RTTPSYVAFTDTERL KAQIHDLVLVGGSTRI KNQVALNPQNTVFDKR RDAKLDKAQIHDLVLVGGSTRI
70kDa	MTA3	KTLLADKGEIRV RALDCSSSVRQPSLHMSAAAASRD RVGDYVYFENSSSNPYLIRR

		KTLLADKGEIRV RVGDYVYFENSSSNPYLIRR KTLLADKGEIRV
68kDa	p66 α /GATAD2A	KAAFVKALQQEQEIEQR KLG PQASSQVVMPLVRG
66kDa	p66 β /GATAD2B	RVIAPNPAQLQGQRG KTPVVQNAASIVQPSPAHVGQQGLSK
60kDa	HDAC2	RSIRPDNMSEYSKQ KLHISPSNMTNQNTPEYMEKI KATAEEMTKYHSDEYIKF RQQTDMAVNWAGGLHHAKK KGKYYAVNFPMRD RLGCFNLTVKG
55kDa	HDAC1	RSIRPDNMSEYSKQ KLHISPSNMTNQNTNEYLEKI RLGCFNLTIKGHAKC RKVCYYYDGDVGNYYYGQGHMPKPHRI KLHISPSNMTNQNTNEYLEKI KQQTDIAVNWAGGLHHAK YYAVNYPLRD RMTHNLLLNYGLYRK
48kDa	RbAp48	RRLNVWDLSKI KTPSSDVLVFDYTKH KTVALWDLRNLKL KGEFGGFGSVSGKI KTIFTGHTAVVEDVSWHLLHESLFGSVADDQKL
46kDa	RbAp46	RYMPQNPHIATKT KIECEIKINHEGEVNRA KTPSSDVLVFDYTKHPAKPDPSGECNPDLRL RVINEEYKIWKK KIGEEQSAEDAEDGPPELLFIHGGHTAKI
40kDa	SIX3	KHESILRARAVV DLYHILENHK RLQHQAI GPSGMR QVASVCETLEETGDI GRFLWSLPVAP RADTGTSI REWYLQDPYPNPSKK
35kDa	MBD3	RQTASIFKQPVTKI

KGKPDNTALPVRQ
KNPGVWLNTTQPLCKA
RYLGGSMDLSTFDFRT
KKLSGLNAFDIAEELVKTMDLPKG

30kDa

MBD2

KSGLSAGKSDVYYFSPSGKK
KRLQGLSASDVTEQIIKT

Supplementary Table S3: The Primers used in ChIP and qChIP Assays

Gene	Strand	Sequence
ANGPTL4	F	CCTCAGGCTCCCAAGTAG
ANGPTL4	R	TGAAAGGGTTCGTCATCG
CTCF	F	TGGTCCCTTCACAGCAAA
CTCF	R	TTCAGGTAGGAGGCATCAG
FOXC2	F	TCCCAGGATCATTGCTACTTAC
FOXC2	R	GGCGACTCCGTCTTCACT
GLI1	F	TAGCCTGGGTCAAAGTCC
GLI1	R	TGTGGAAGGTCAGTGGGT
LAMB1	F	GTCCCGTCACCAACCTCT
LAMB1	R	ACTCCGTTTCCCATCTCG
MTF1	F	GCCAGCAAGTCTTCCAAA
MTF1	R	GGTTCAGGTCAGTGCCATA
NCOA3	F	AAGTCTCACCTATTGCTTTTGG
NCOA3	R	AATGGGTCAGGACTGTTGTTAT
WNT1	F	CAGCAACCCTTGTCTTCCC
WNT1	R	TGGCATCCTATGGCGTGT
WNT3	F	GGAGGCTGGAAGCTGGGA
WNT3	R	CGAGGGTAGAAAGCACAGGGA
WNT5A	F	TGCCAAACTTCGCAATCTC
WNT5A	R	GGACCTCCTCATTCTTACCTCT
JAG1	F	CCCGCCAGTGCTCAAGAT
JAG1	R	GGGAGGCTCAGTATGAACAATA
PAX4	F	CCAGATGGCACGCTTATT
PAX4	R	ACTGTCCGCTGAGCAACA
RBP1	F	CTGCCATTAGGTGAAACG
RBP1	R	CTGGGCGACAGAGTGAGA
WDR74	F	GGTGGTTACCATGACCCT
WDR74	R	TTCCTCCTTGGACTGCTC
ZEB2	F	CCCTTCCATATTTGCATAACC
ZEB2	R	CTACACCTCGGGGAGACCTC
GAPDH	F	GCCTCCAAACAGCCTTGC
GAPDH	R	GCCCTGACTTCTCCACCT

Supplementary Table S4: The Primers used in quantitative real-time PCR (qPCR)

Gene	Strand	Sequence
SIX3	F	CCGTCTCCGTTCCGAATTTG
SIX3	R	ACACATTTGCTATTTCCCTCTCC
MTA3	F	CAAAGACTTCAATGACATACGG
MTA3	R	ATTTGGTTTGCTGTAGGTTGG
LSD1	F	AACCTCTATAAAGCTCCAATACTG
LSD1	R	AACCTCTATAAAGCTCCAATACTG
WNT1	F	CCAATCCCTCTCCACTCTTC
WNT1	R	GCAAACGCATCTTTGAGAAAC
FOXC2	F	TCCTACGACTGCACGAAATA
FOXC2	R	CCTTAATTGTCTGGTTGGGT
ANGPTL4	F	ACAAGCACCTAGACCATGAG
ANGPTL4	R	CGCCTCTGAATTACTIONGTCCA
GLI1	F	GGTGAGAAGCCATACATGTG
GLI1	R	ACATACGGCTTCTCATTGGA
NCOA3	F	TCCTGATCAGAAATACTGCT
NCOA3	R	AAACACGTAGATATTGCCCT
JAG1	F	GTTCTCCTAATAACTGTTCCCA
JAG1	R	CCATTAACCAAATCCCGACAG
ZEB2	F	CCAGTCCAGACCAGTATTCC
ZEB2	R	CAAGCAATTCTCCCTGAAATCC
GAPDH	F	TCCTCCTGTTTCATCCAAGC
GAPDH	R	TAGTAGCCGGGCCCTACTTT

Supplementary Table S5: The shRNA Sequences

shSCR	TTCTCCGAACGTGTCACGT
shSIX3#1	ATCAACAAACACGAGTCGATC
shSIX3#2	TTGCCAAACTTCGCCGATTCT
shMTA3	GCTTTCTTCCTTCATACTACA
shLSD1-1	GAGACAGACAAATACTTGA
shWNT1	GAATCCTGCACGTGTGACTAC