Supplementary Information

TCF19 promotes cell proliferation through binding to the histone H3K4me3 mark

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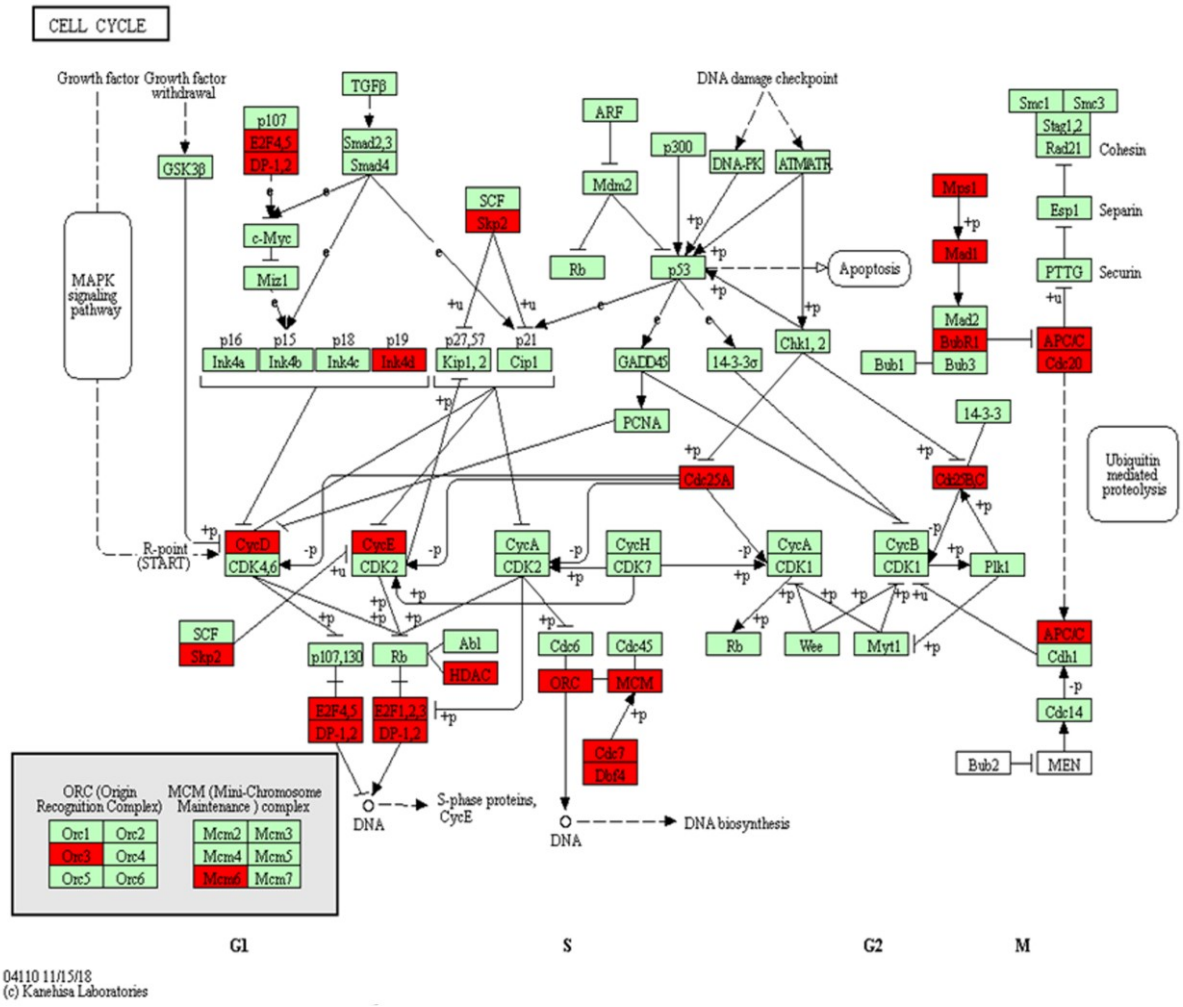
Figures

A.


CELL CYCLE
Growth factor
Growth factor withdrawal
TGFβ
DNA damage checkpoint
MAPK signaling pathway
GSK3β
p107
E2F4,5
DP-1,2
Smad2,3
Smad4
ARF
p300
DNA-PK
ATM/ATR
Smc1
Smc3
Stag1,2
Rad21
Cohesin
Mdm2
Mps1
Esp1
Separin
SCF
Skp2
c-Myc
Miz1
Rb
p53
Apoptosis
Mad1
PTTG
Securin
Mad2
BubR1
Bub3
Bub1
APC/C
Cdc20
p16
Ink4a
p15
Ink4b
p18
Ink4c
p19
Ink4d
p27,57
Kip1, 2
p21
Cip1
GADD45
14-3-3σ
Chk1, 2
PCNA
14-3-3
Cdc25A
Cdc25C
Ubiquitin mediated proteolysis
R-point
(START)
CycD
CDK4,6
CycE
CDK2
CycA
CDK2
CycH
CDK7
CycA
CDK1
CycB
CDK1
Plk1
SCF
Skp2
p107,130
Rb
Abl
HDAC
Cdc6
Cdc45
ORC
MCM
Rb
Wee
Myt1
APC/C
Cdh1
Cdc14
E2F4,5
DP-1,2
E2F1,2,3
DP-1,2
Cdc7
Dbf4
Bub2
MEN
ORC (Origin Recognition Complex)
Orc1
Orc2
Orc3
Orc4
Orc5
Orc6
MCM (Mini-Chromosome Maintenance) complex
Mcm2
Mcm3
Mcm4
Mcm5
Mcm6
Mcm7
DNA
S-phase proteins, CycE
DNA
DNA biosynthesis
G1
S
G2
M
04110 11/15/18
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B.

Entrez ID	Gene Symbol	Regulation	Cell Cycle Phase
1032	CDKH2D	Up	G1
1870	E2F2	Up	G1
1874	E2F4	Up	G1
1875	E2F5	Up	G1
595	CCND1	Up	G1
6502	SKP2	Up	G1
7029	TFDP2	Up	G1
894	CCND2	Up	G1
9134	CCNE2	Up	G1
10926	DBF4	Up	S
23595	ORC3	Up	S
3065	HDAC1	Up	S
3066	HDAC2	Up	S
4175	MCM6	Up	S
8317	CDC7	Up	S
993	CDC25A	Up	S
25847	ANAPC13	Up	G2/M
29945	ANAPC4	Up	G2/M
701	BUB1B	Up	G2/M
7272	TTK	Up	G2/M
8379	MAD1L1	Up	G2/M
991	CDC20	Up	G2/M
995	CDC25C	Up	G2/M

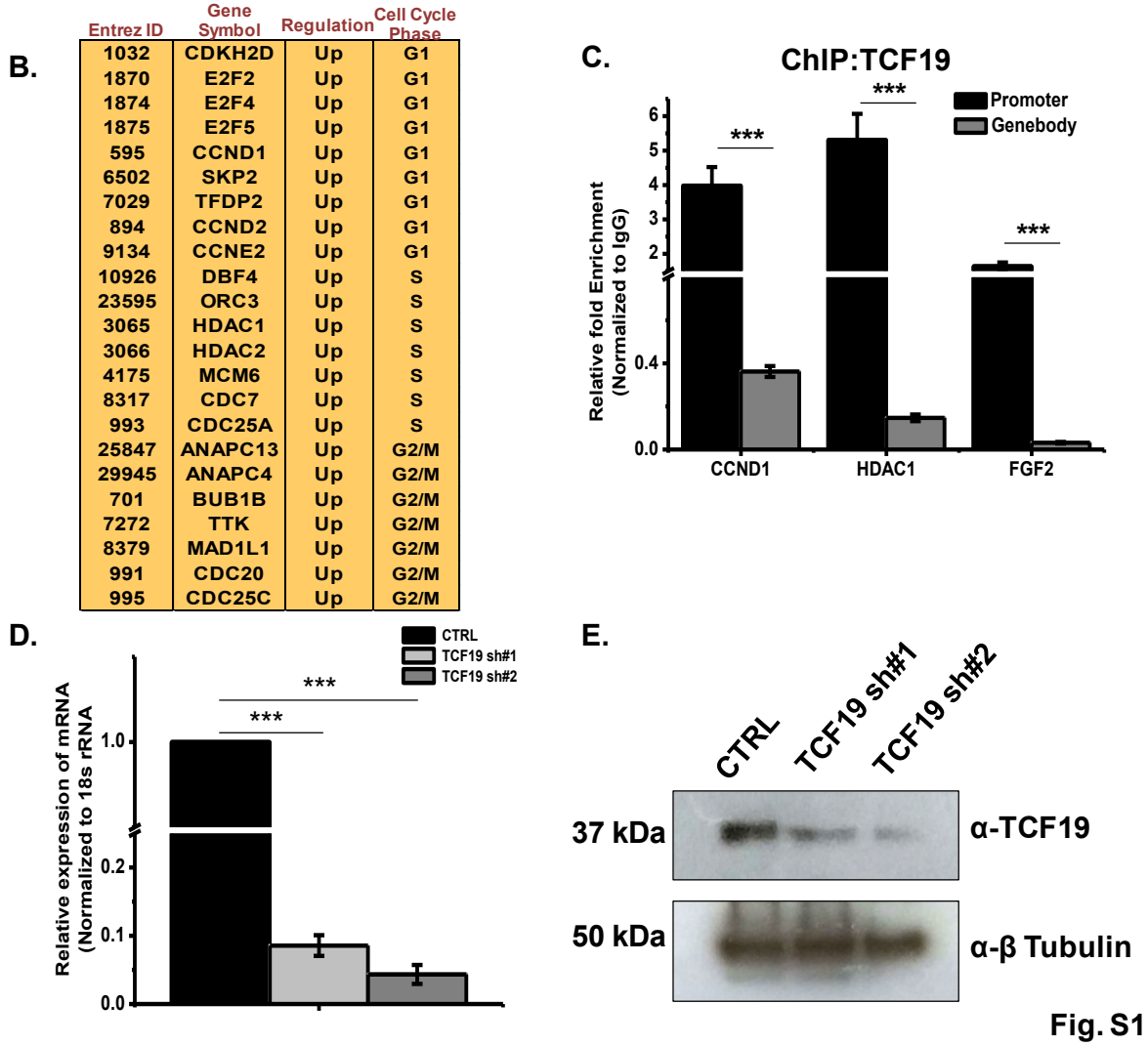

Figure S1: (A) Several cell cycle genes were differentially expressed upon knocking down TCF19 as highlighted in KEGG cell cycle process. (B) The list of cell proliferation genes from KEGG pathway has been shown according to stages of cell cycle. (C) TCF19 is recruited to proliferation genes as observed by ChIP assay in Huh7 cells. (D-E) q-RT PCR validation (D) & Western blot analysis (E) of TCF19 silencing in HepG2 cells used for Glucose uptake assay. Two different TCF19 shRNAs were used. TCF19 sh#2 showed better silencing.

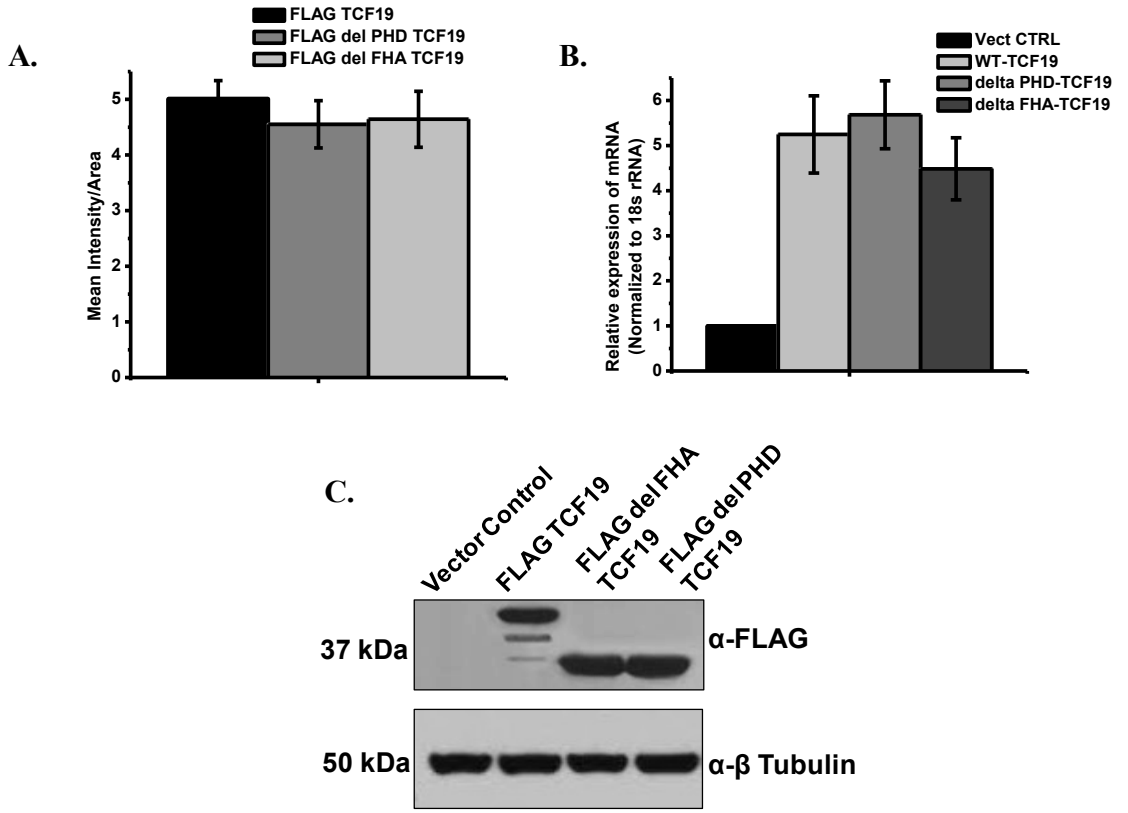

Fig. S2

Figure S2: (A) Mean intensity of WT-TCF19, delPHD-TCF19 and delFHA-TCF19 protein expression using confocal microscopy. (B-C) q-RT PCR validation (B) & Western blot analysis (C) of WT-TCF19, delPHD-TCF19 and delFHA-TCF19 overexpression in HepG2 cells used for wound healing assay.

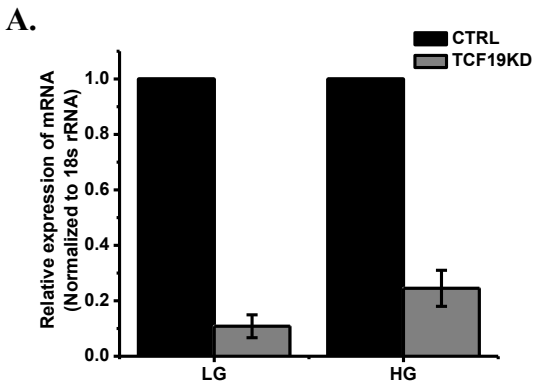

Fig. S3

Figure S3: (A) q-RT PCR validation TCF19 silencing in HepG2 cells in both low and high glucose conditions used for wound healing assay.

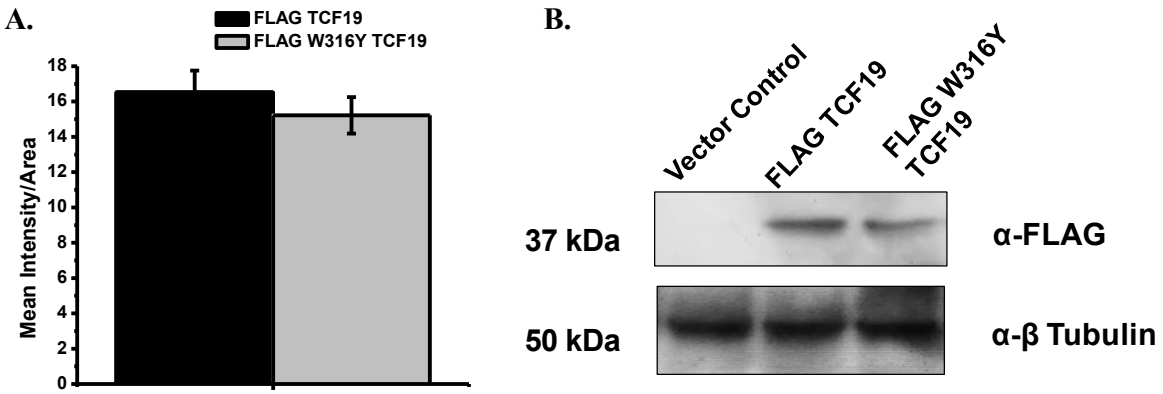

Fig. S4

Figure S4: (A) Mean intensity of FLAG TCF19 and FLAG W316Y TCF19 protein expression using confocal microscopy. (B) Western blot analysis of FLAG TCF19 and FLAG W316Y overexpression in HepG2 cells used for confocal microscopy.