

Supplementary Table1:

Homo	Runx2	F	GGCGGGTAACGATGAAAATT
Homo	Runx2	R	GAGGCGGTCAGAGAACAACAACTA
Homo	GAPDH	F	TCAAGAAGGTGGTGAAGCAGG
Homo	GAPDH	R	TCAAAGGTGGAGGAGTGGGT
Homo	CCND1	F	GAAGATCGTCGCCACCTG
Homo	CCND1	R	GACCTCCTCCTCGCACTTCT
Homo	CCND2	F	CTGCTGGAATTGGTGTGTA
Homo	CCND2	R	CTTCGTCTAGGAGCTGGAGG
Homo	GLI1	F	ACATCAACAGCGAGCACATC
Homo	GLI1	R	AGGTTTTTCGAGGCGTGAGTA
Homo	GLI2	F	TGAAGGATTCCTGCTCGTG
Homo	GLI2	R	GAAGTTTTCCAGGACAGAACCA
Homo	GLI3	F	AAGCGGTCCAAGATCAAGC
Homo	GLI3	R	TGTTCCCTCCGGCTGTTC
Homo	PTCH1	F	TGACAAAGCCGACTACATGC
Homo	PTCH1	R	AGCGTACTCGATGGGCTCT
Homo	CCNB1	F	ATGACATGGTGCACCTTCTCC
Homo	CCNB1	R	GCCACGTGCTGCATAACTGG
Homo	CCNE1	F	AAATGGCCACAATCGACAGG
Homo	CCNE1	R	CGAGGCTTGCACGTTGAGTT
Homo	MKI67	F	GCCCCTGGAAGATTATGGTGG
Homo	MKI67	R	GGGTTCTGACTGGTTGTGGTTGT

Primer sequences

## Supplementary Table2

Protein	Brand	Cat. nub.
Gli1	Abcam	ab134906
ALP	R&D system	MAB1448
Runx2	CST.	8486
GAPDH	Proteintech	60004-1-Ig
Vimentin	Proteintech	10366-1-AP
$\alpha$ -SMA	Proteintech	14395-1-AP
Ki-67	Proteintech	CL594-27309
CyclinE1	Proteintech	11554-1-AP
CyclinB1	Proteintech	55004-1-AP
Runx2	CST.	12556
AKT	CST.	2920
p-AKT	CST.	4060
p130cas	CST.	13846
p-p130cas	CST.	4011
SHH	Abcam	ab240438
SMAD2/3	CST.	8685
SMAD4	CST.	46535
p-SMAD2	CST.	3108
p-SMAD3	CST.	9520

## Antibodies