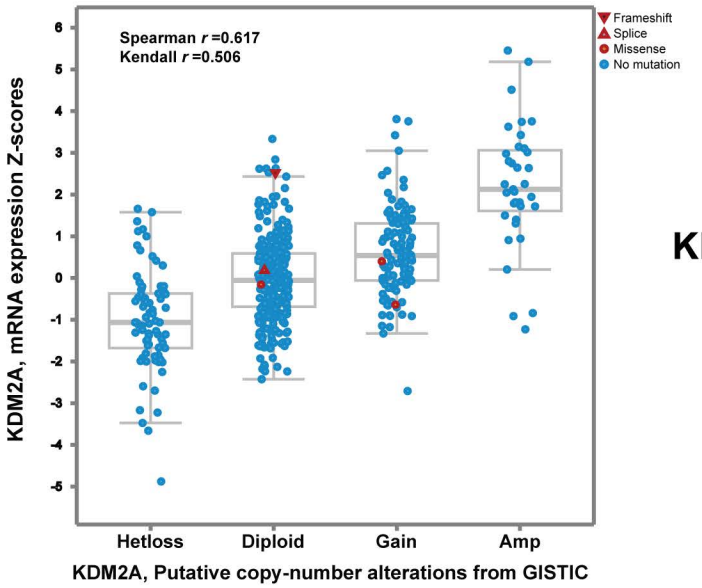
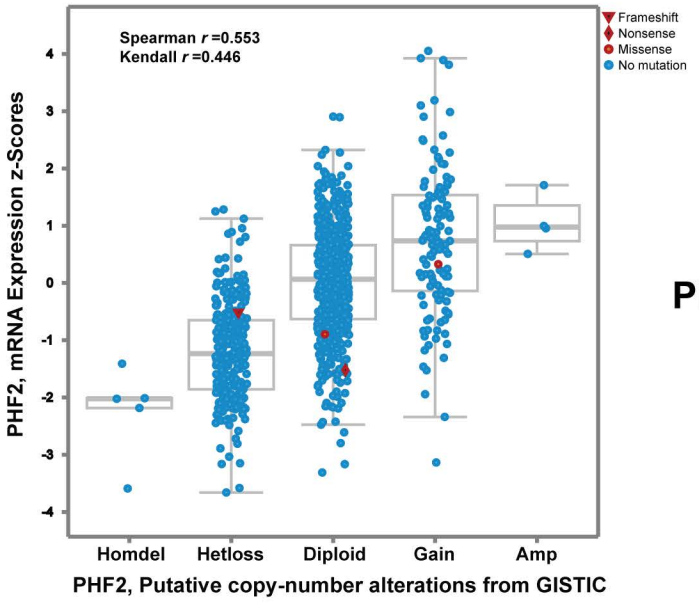
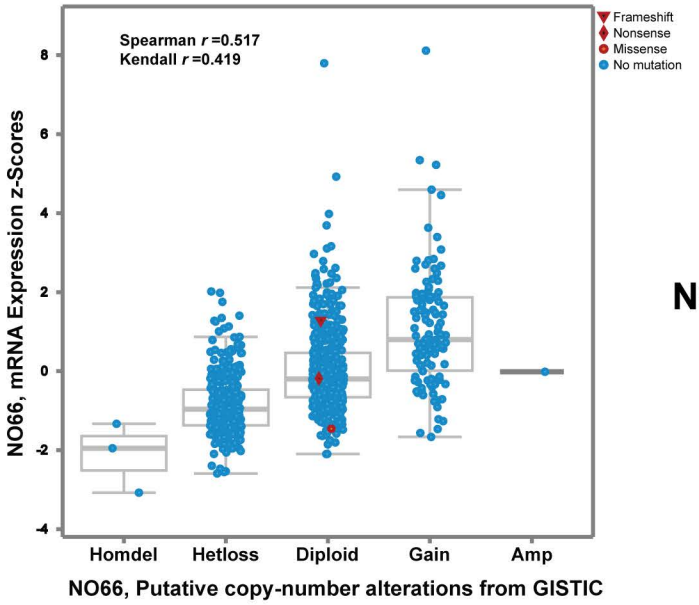
Figure S1



KDM2A



PHF2



NO66

Figure S2

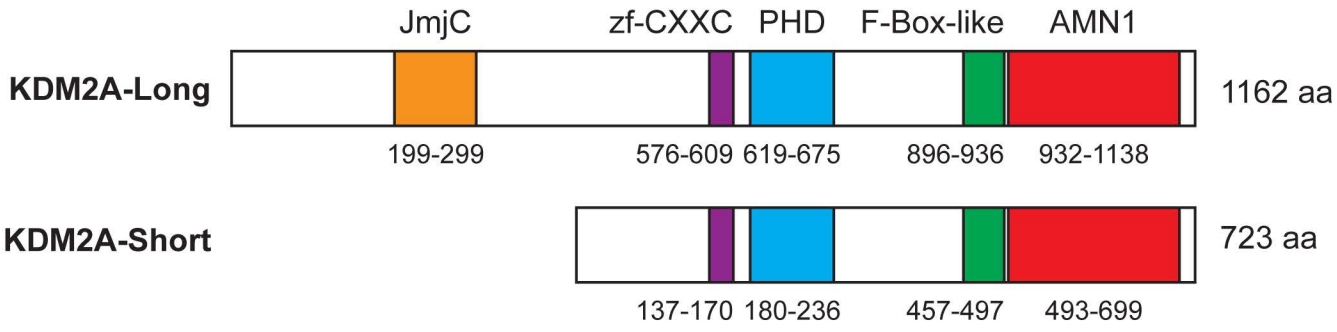

JmjC
zf-CXXC
PHD
F-Box-like
AMN1
KDM2A-Long
1162 aa
199-299
576-609
619-675
896-936
932-1138
KDM2A-Short
723 aa
137-170
180-236
457-497
493-699

Figure S3

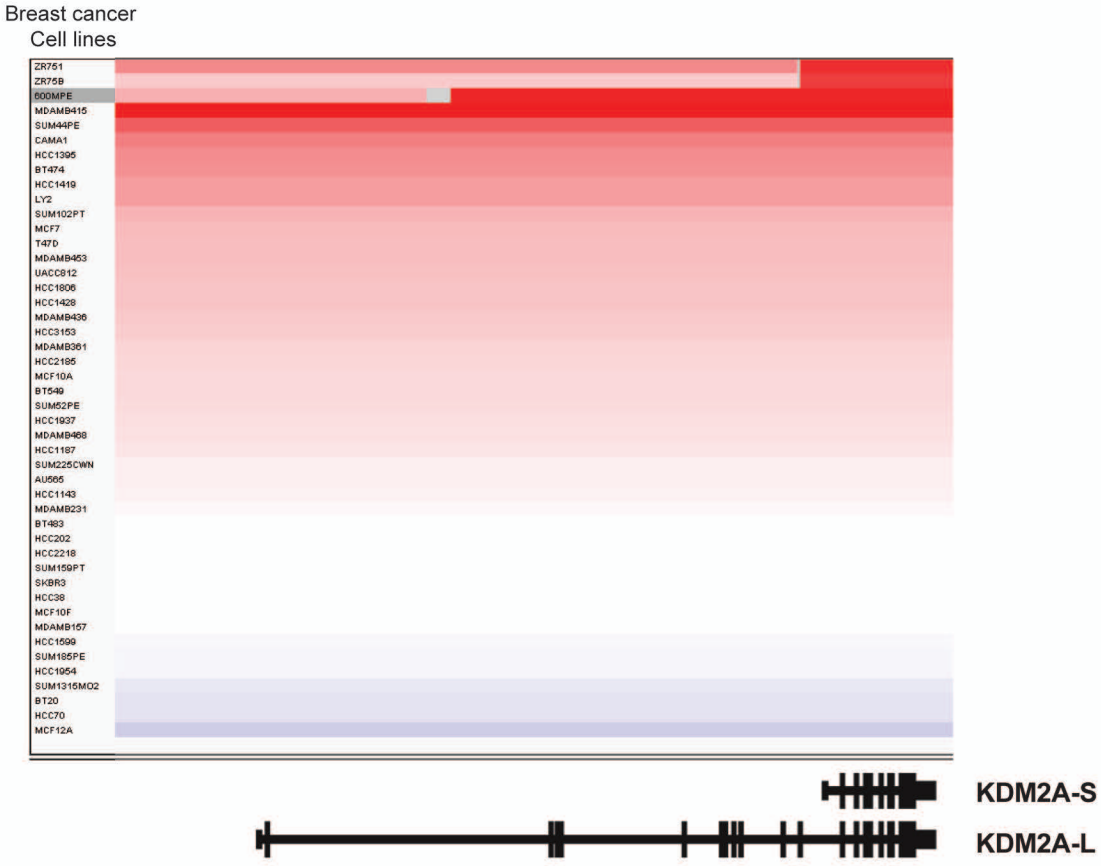

Breast cancer
Cell lines
ZR751
ZR75B
600MPE
MDAMB415
SUM44PE
CAMA1
HCC1395
BT474
HCC1419
LY2
SUM102PT
MCF7
T47D
MDAMB453
UACC812
HCC1806
HCC1428
MDAMB436
HCC3153
MDAMB361
HCC2185
MCF10A
BT549
SUM52PE
HCC1937
MDAMB468
HCC1187
SUM225CWN
AU565
HCC1143
MDAMB231
BT483
HCC202
HCC2218
SUM159PT
SKBR3
HCC38
MCF10F
MDAMB157
HCC1599
SUM185PE
HCC1954
SUM1315MO2
BT20
HCC70
MCF12A
KDM2A-S
KDM2A-L

Figure S4

A

Sample ID	Subtype	Expression Z-Score
TCGA-BH-A0DI	LumA	5.54
TCGA-E2-A1IU	LumA	4.16
TCGA-C8-A12Q	Her2	12.29
TCGA-AQ-A04L	LumA	3.18
TCGA-AC-A2FM	N/A	3.08
TCGA-E2-A15O	LumA	2.72
TCGA-AR-A0U3	LumA	5.44
TCGA-OL-A66J	N/A	2.16
TCGA-BH-A0BV	LumA	1.18
TCGA-BH-A0BD	LumB	4.85
TCGA-BH-A0W3	LumB	7.41
TCGA-E2-A2P6	N/A	5.26
TCGA-BH-A18T	Basal	5.65
TCGA-BH-A18L	LumB	5.47
TCGA-BH-A201	LumA	23.92
TCGA-S3-A6ZG	N/A	N/A

B

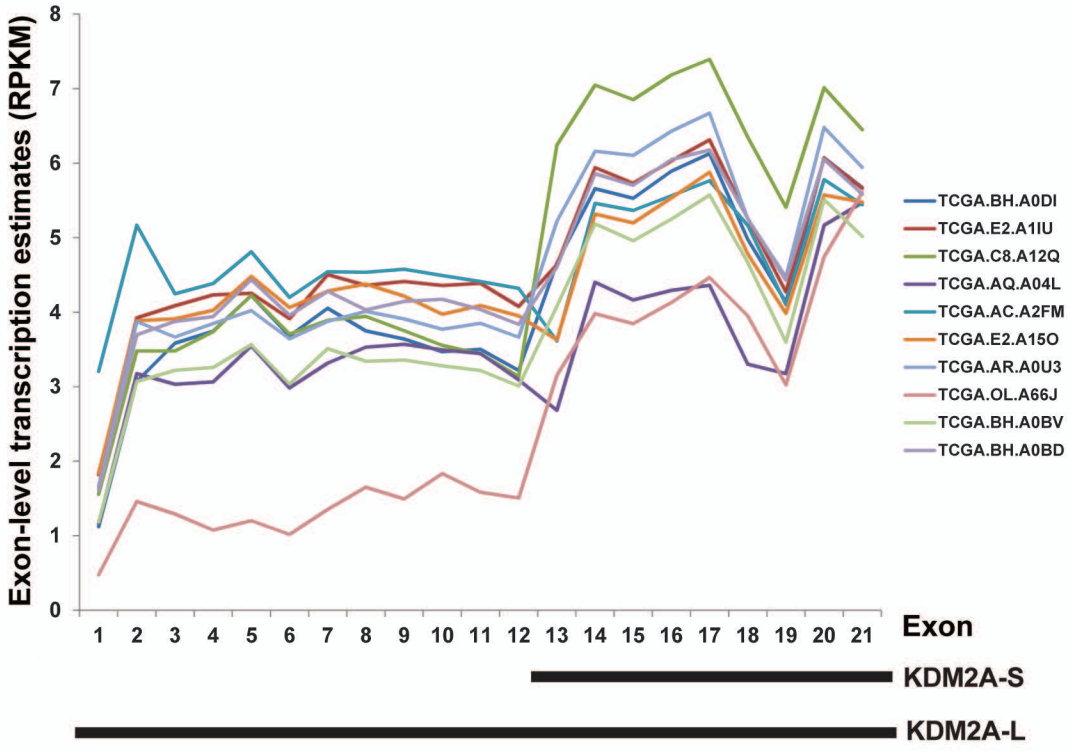
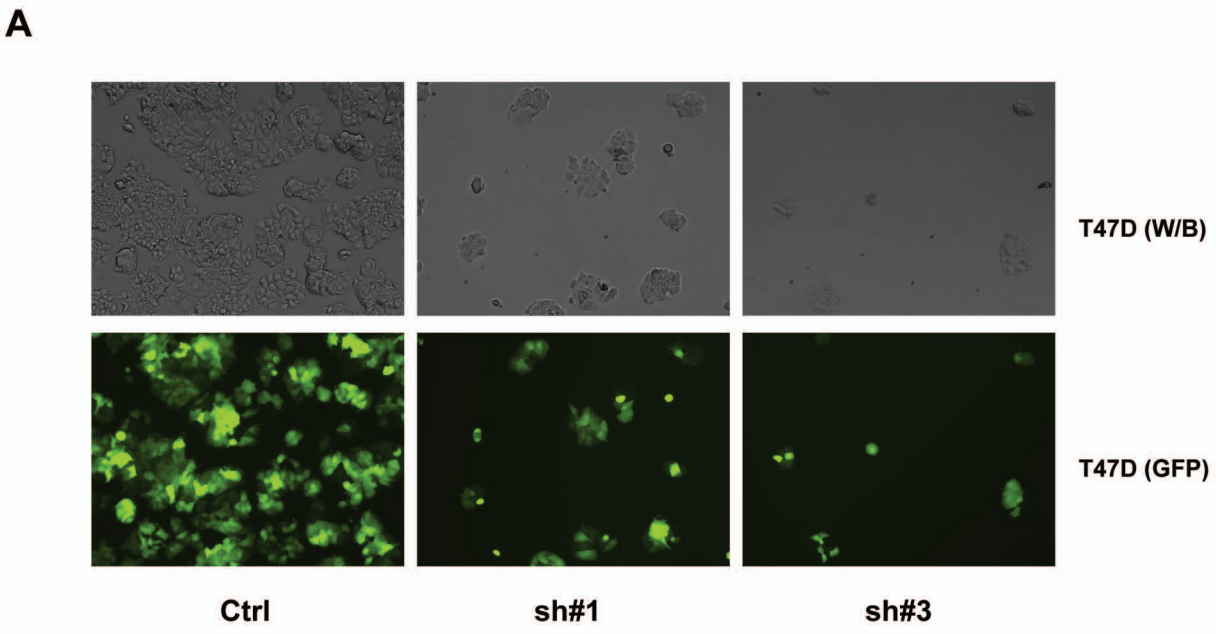


Figure S5


A
T47D (W/B)
T47D (GFP)
Ctrl
sh#1
sh#3

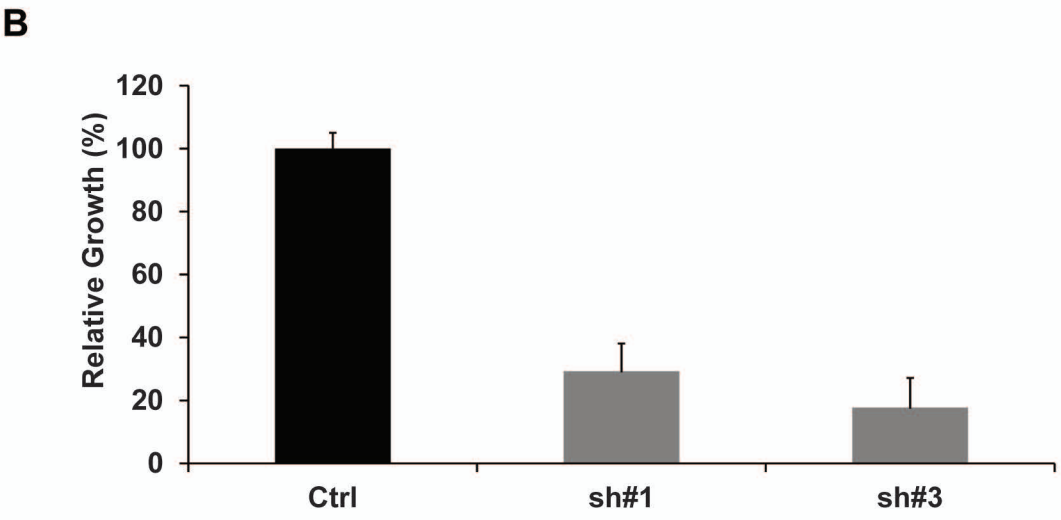

B
Relative Growth (%)
120
100
80
60
40
20
0
Ctrl
sh#1
sh#3

Figure S6

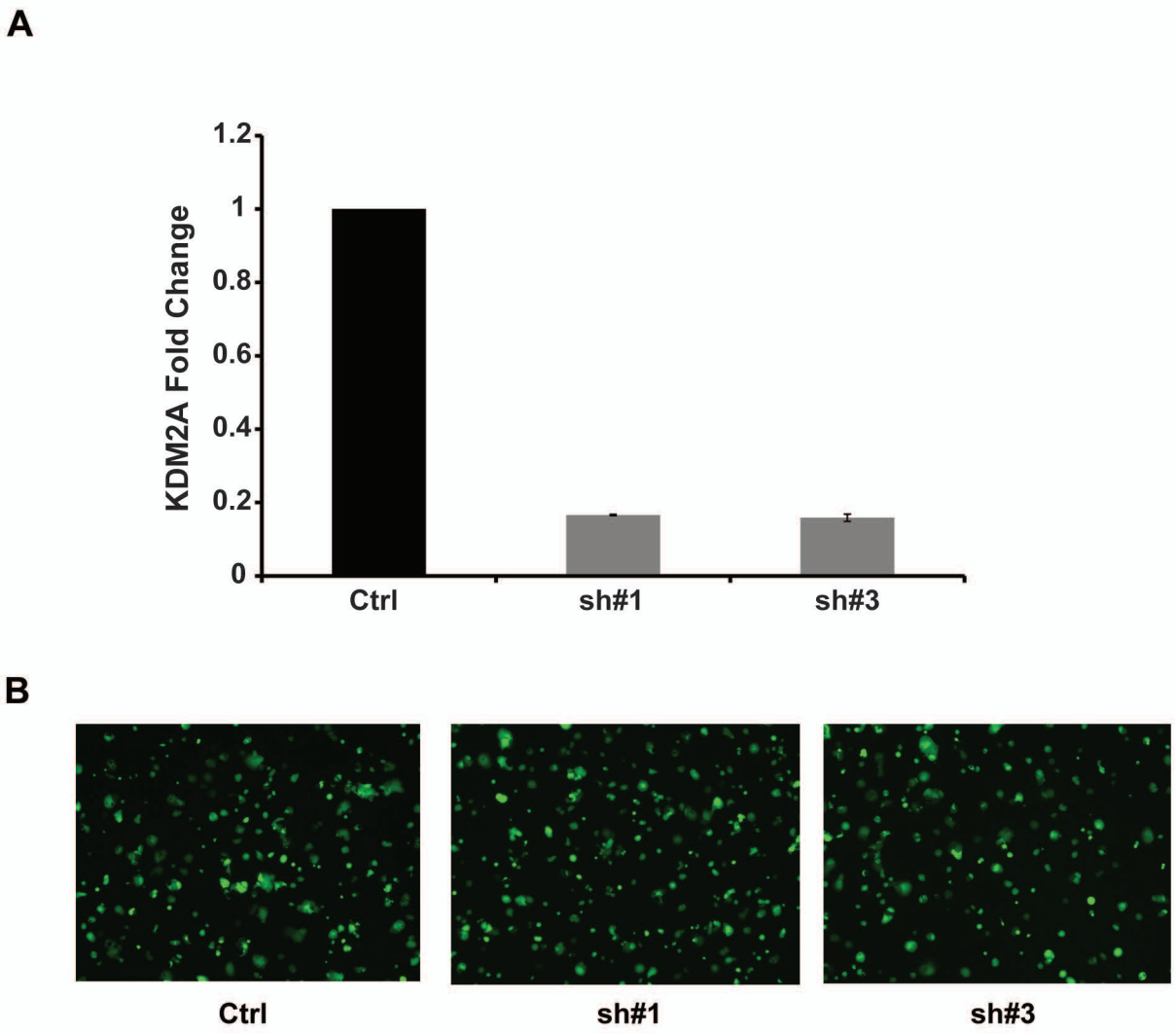


Figure S7

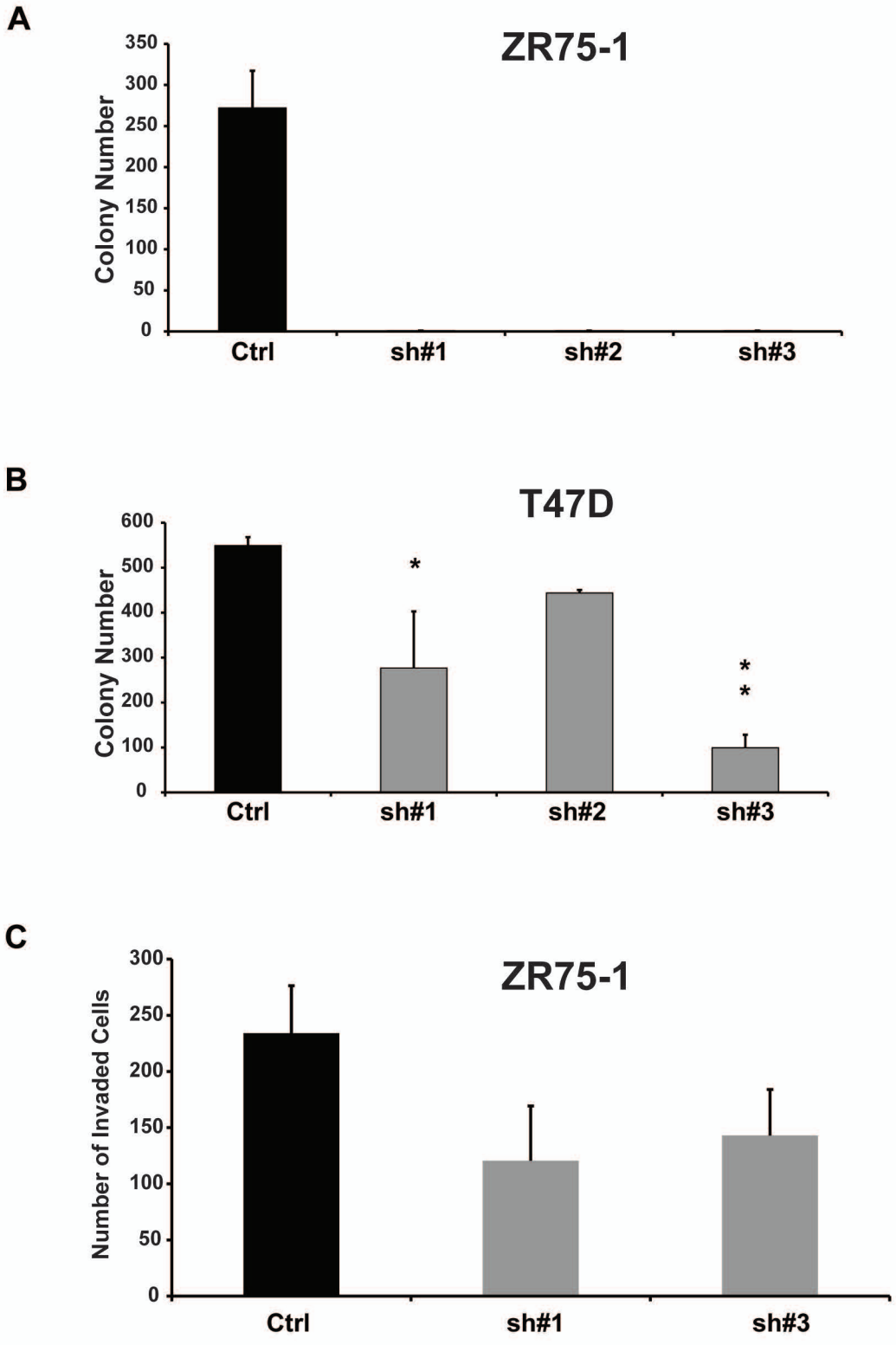

A
ZR75-1
Colony Number
350
300
250
200
150
100
50
0
Ctrl
sh#1
sh#2
sh#3
B
T47D
Colony Number
600
500
400
300
200
100
0
*
*
*
Ctrl
sh#1
sh#2
sh#3
C
ZR75-1
Number of Invaded Cells
300
250
200
150
100
50
0
Ctrl
sh#1
sh#3

Figure S8

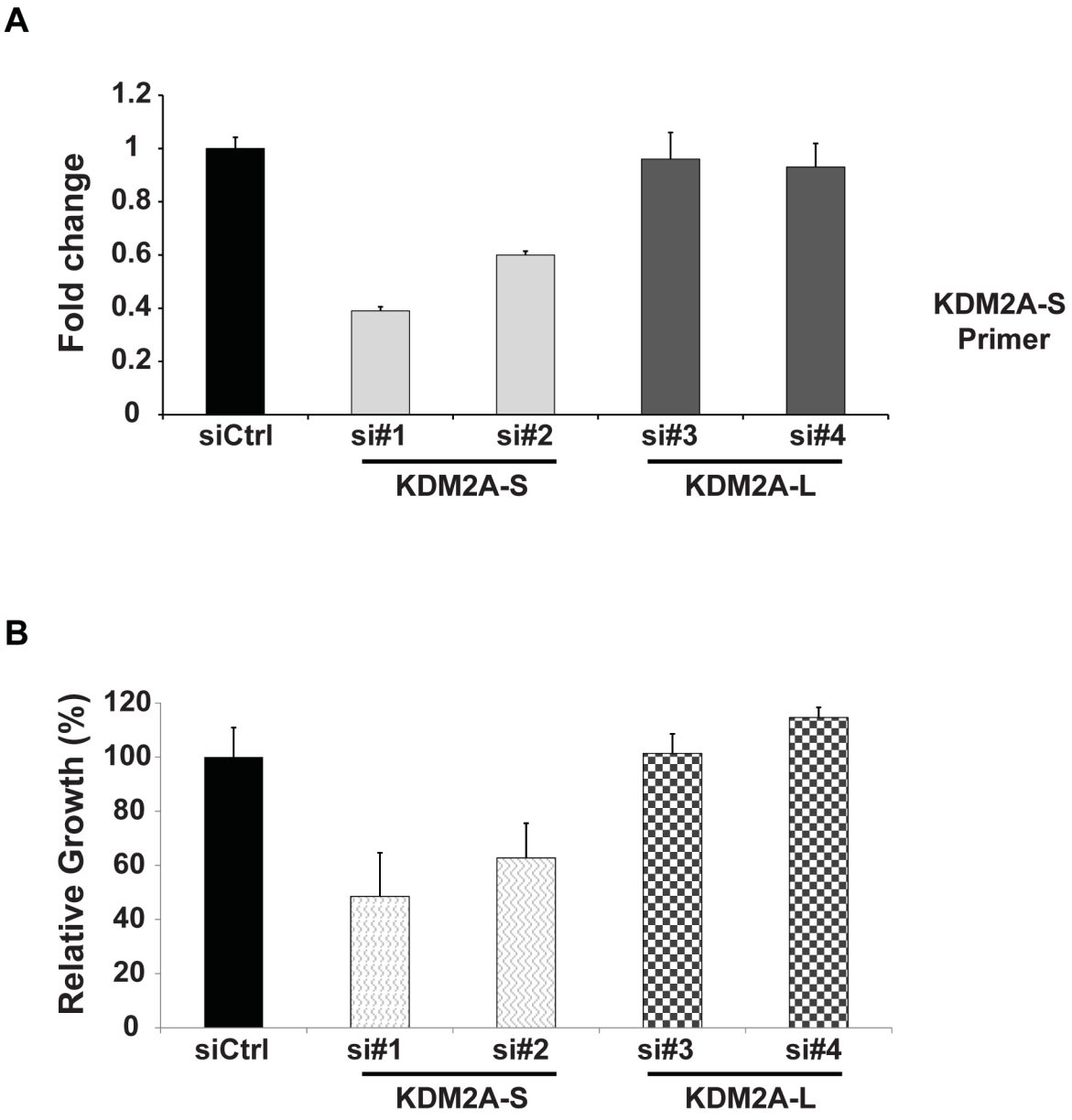

A
Fold change
1.2
1
0.8
0.6
0.4
0.2
0
siCtrl
si#1
si#2
si#3
si#4
KDM2A-S
KDM2A-L
KDM2A-S Primer
B
Relative Growth (%)
120
100
80
60
40
20
0
siCtrl
si#1
si#2
si#3
si#4
KDM2A-S
KDM2A-L

Figure S9

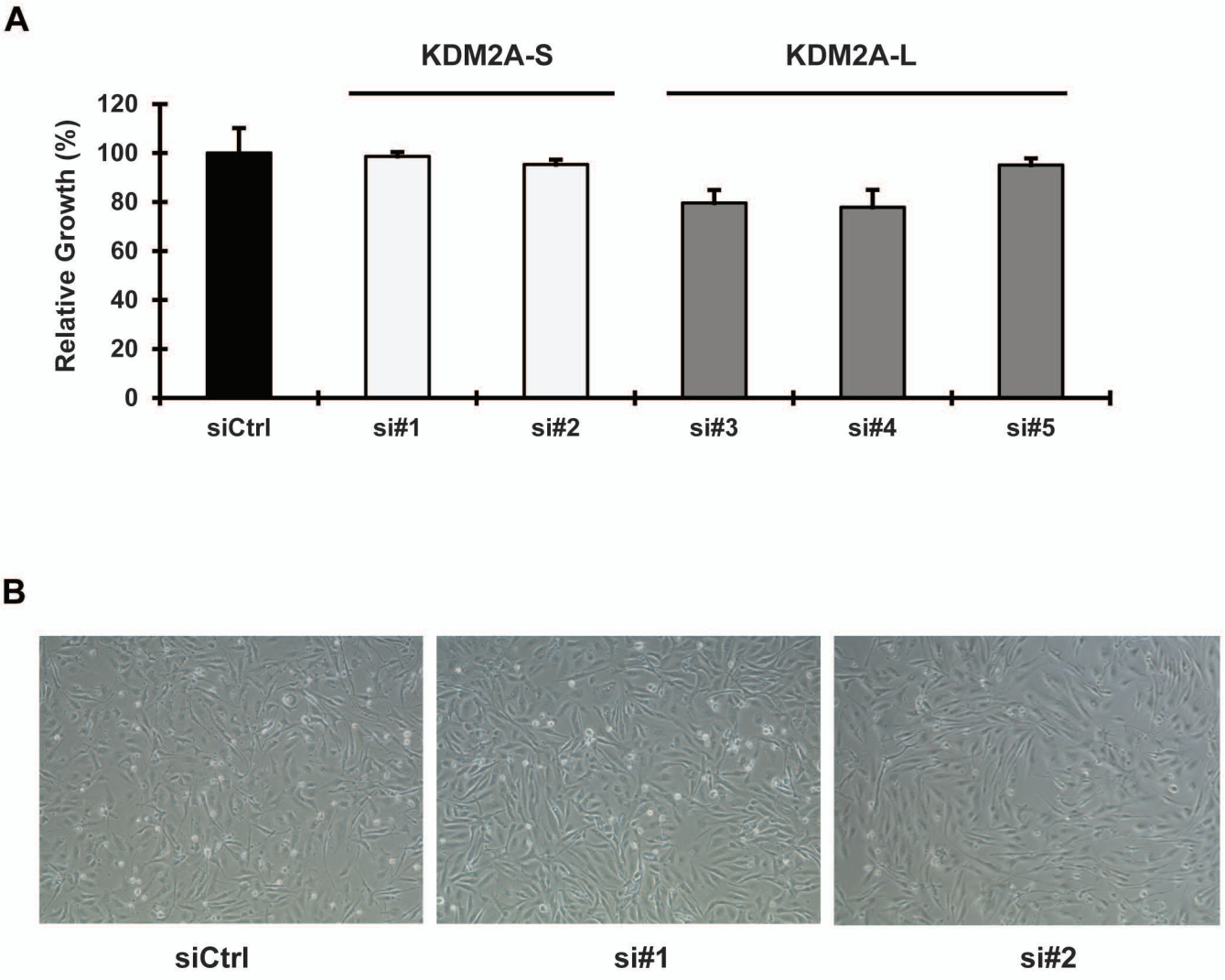

A
KDM2A-S
KDM2A-L
Relative Growth (%)
120
100
80
60
40
20
0
siCtrl
si#1
si#2
si#3
si#4
si#5
B
siCtrl
si#1
si#2

Figure S10

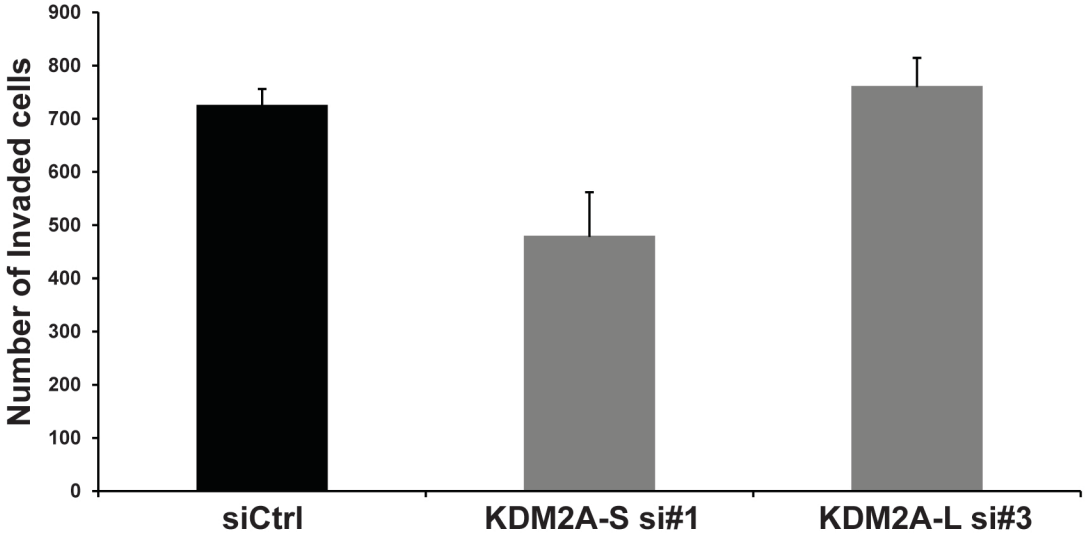

Number of Invaded cells
900
800
700
600
500
400
300
200
100
0
siCtrl
KDM2A-S si#1
KDM2A-L si#3

Figure S11

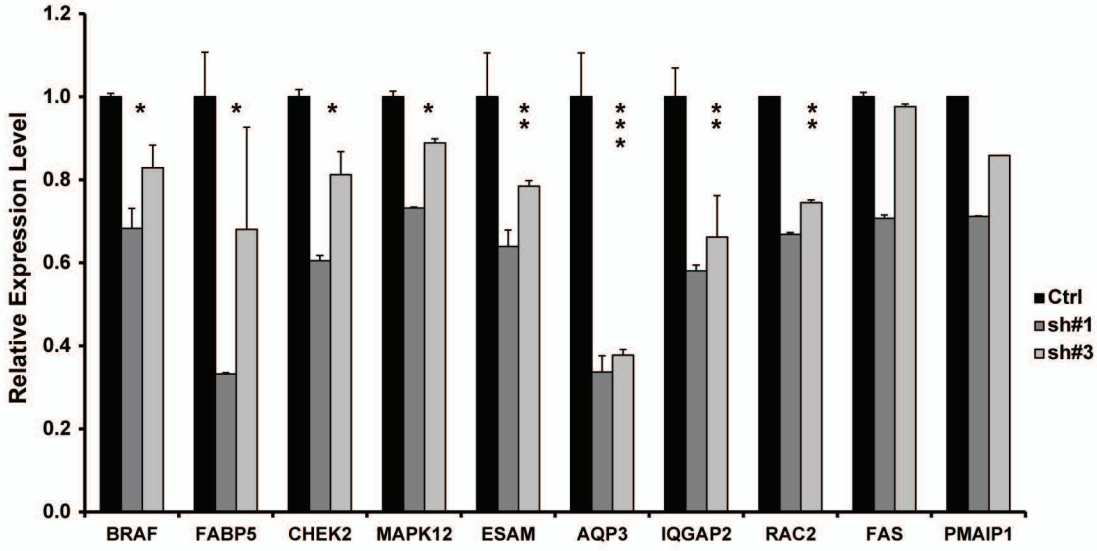
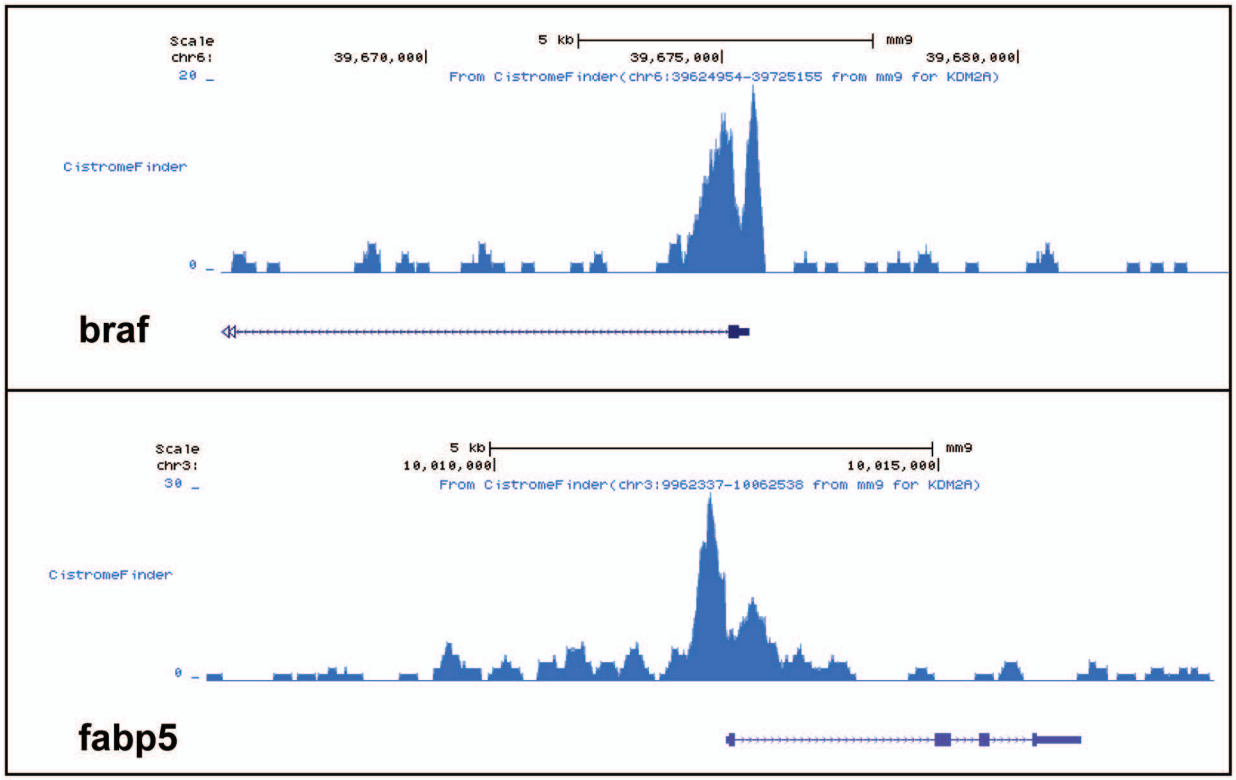

Relative Expression Level
1.2
1.0
0.8
0.6
0.4
0.2
0.0
*
*
*
*
**
***
**
**
**
BRAF
FABP5
CHEK2
MAPK12
ESAM
AQP3
IQGAP2
RAC2
FAS
PMAIP1
Ctrl
sh#1
sh#3

Figure S12


Scale
chr6:
20
39,670,000
5 kb
39,675,000
mm9
39,680,000
From CistromeFinder(chr6:39624954-39725155 from mm9 for KDM2A)
CistromeFinder
0
braf
Scale
chr3:
30
10,010,000
5 kb
10,015,000
mm9
From CistromeFinder(chr3:9962337-10062538 from mm9 for KDM2A)
CistromeFinder
0
fabp5