

Table S1. Breast cancer cell lines used in the study

Cell line	ATCC number	Subtype	Culture medium
T47D	HTB-133 TM	Luminal A	RPMI, 10% FBS
MCF7	HTB-22 TM	Luminal A	DMEM / low glucose, 10% FBS
SKBR3	HTB-30 TM	HER2 positive	MaCoy's 5a, 10% FBS
MDA-MB-468	HTB-132 TM	Triple negative A	RPMI, 10% FBS
MDA-MB-436	HTB-130 TM	Triple negative A	DMEM / high glucose, 10 mg/mL insulin, 10% FBS
MDA-MB-231	HTB-26 TM	Triple negative B	DMEM / high glucose, 10% FBS
BT-549	HTB-122 TM	Triple negative B	RPMI, 10% FBS

Table S2. List of targeting sequences for shRNA and primers for qPCR

Target sequences for shRNA

shRNA	Target sequence (5' → 3')	Catalog number
shNT	CAACAAGATGAAGAGCACCAA	SHC002
shITGβ1#2	TACATTCTCCACATGATTTGG	TRCN0000275082
shITGβ1#3	ATATCAGCAGTAATGCAAGGC	TRCN0000275083
shITGβ4#1	CATAGTCGCAATACGGGTAC	TRCN0000308077
shITGβ4#5	CAATAGGTCGGTTGTCATCG	TRCN0000296114

Primers for qPCR

Primer	Sequence (5' → 3')
β1 integrin For	TTGGATTCTCCAGAAGGTGGTT
β1 integrin Rev	TCAGTGATCCACAAACTGCAACT
β4 integrin For	GCAGATCTCCGGTGTACACAAG
β4 integrin Rev	GCTTTTTCCCGGCATTGG
TBC1D2 For	GAATCACACGGAACCGAACTG
TBC1D2 Rev	GTGAGCATCAGAACCTGTTGCT
TBP For	GCCAGGCACCACAGCTCTT
TBP Rev	CGGCAAGGGTGCAGTTG

Table S3. List of antibodies

Name of antibody	Manufacturer	Catalog number
Western blotting		
Integrin β 1	Cell Signaling Technology	9699s
Integrin β 3	Cell Signaling Technology	13166
Integrin β 4	Cell Signaling Technology	14803s
Rac1	BD Biosciences	610650
Cdc42	BD Biosciences	610929
FAK	Santa Cruz Biotechnology	sc-558
Phospho-FAK (Tyr397)	Cell Signaling Technology	8556s
Flag	Merck	F3040
α -tubulin	Thermo Fisher Scientific	13-8000
β -actin	Merck	A1978
GAPDH	Merck	MAB374
Mouse IgG HRP-linked antibody	GE Healthcare	NA931
Rabbit IgG HRP-linked antibody	GE Healthcare	NA934
Flow cytometry		
APC anti-human CD29 (Integrin β 1) antibody	BioLegend	303007
FITC anti-human CD104 (Integrin β 4) antibody	BioLegend	327805
APC Mouse IgG1, κ Isotype control antibody	BioLegend	400119
FITC Mouse IgG2a, κ Isotype control antibody	BioLegend	400209
Immunocytochemistry		
Integrin β 4	Merck	MAB1964
LAMP1	Cell Signaling Technology	9091
Goat anti-Mouse IgG antibody, Alexa Fluor 488	Thermo Fisher Scientific	A-11001
Goat anti-Rabbit IgG antibody, Alexa Fluor 568	Thermo Fisher Scientific	A-11011