

Supplementary Table 1. Different concentrations used for stimulation of MDA-MB-231 cells.

Stimulant/inhibitor	Applied concentration	Cat. no.	Supplier
IL6	100 ng/ml	11340064	ImmunoTools, Friesoythe, Germany
IL8	100 ng/ml	11349084	ImmunoTools, Friesoythe, Germany
VEGF	20 ng/ml	ACFP293	R&D Systems, Minnesota, United States
IGFR inhibitor (AG-1024)	20 μ M	S1234	Selleck, Berlin, Germany
TFPI	50 ng/ml	SRP6458	Merck KGaA, Darmstadt, Germany

Supplementary Table 2. PCR primers used in this study.

Gene	Forward primer sequences	Reverse primer sequences
β-Actin	5'-CAA AGA CCT GTA CGC CAA CAC-3'	5'-CAT ACT CCT GCT TGC TGA TCC-3'
Sdc-1	5'-AGG ACG AAG GCA GCT ACT CCT-3'	5'-TTT GGT GGG CTT CTG GTA GG-3'
F3	5'-CAG AGT TCA CAC CTT ACC TGG AG-3'	5'-GTT GTT CCT TCT GAC TAA AGT CCG-3'
F7	5'-CCT CAA GTC CAT GCC AGA ATG G-3'	5'-CAC AGA TCA GCT GGT CAT CCT TG-3'
F2R	5'-GTT TCT GGC TGT GGT GTA TCC C-3'	5'-CCT GGA TGG TTT GCT CCT TGA G-3'
F2RL1	5'-CTC CTC TCT GTC ATC TGG TTC C-3'	5'-TGC ACA CTG AGG CAG GTC ATG A-3'
EGFR	5'-CAATTGGAAGATTGGAAGATTCAGC-3'	5'-CCAGTCAGGTTACAGGGCACA-3'
MAPK1	5'-ACACCAACCTCTCGTACATCGG-3'	5'-TGGCAGTAGGTCTGGTGCTCAA-3'
NFkB	5'-GCAGCACTACTTCTTGACCACC-3'	5'-TCTGCTCCTGAGCATTGACGTC-3'
EDN1	5'-CTACTTCTGCCACCTGGACATC-3'	5'-TCACGGTCTGTTGCCTTTGTGG-3'
VEGFa	5'-TTGCCTTGCTGCTCTACCTCCA-3'	5'-GATGGCAGTAGCTGCGCTGATA-3'
IGFBP1	5'-TCCTTTGGGACGCCATCAGTAC-3'	5'-GATGTCTCCTGTGCCTTGGCTA-3'
IL6	5'-AGTGAGGAACAAGCCAGAGC-3'	5'-CATTTGTGGTTGGGTCAGG-3'

IL8	5'-GAGAGTGATTGAGAGTGGACCAC-3'	5'-CACAACCCTCTGCACCCAGTTT-3'
Survivin	5'-CCACTGAGAACGAGCCAGACTT-3'	5'-GTATTACAGGCGTAAGCCACCG-3'

Supplementary Table 3. Antibodies used in this study.

Antibody	Cat. no.	Supplier
p-PTEN (Ser380)	9551	Cell Signaling Technology, Massachusetts, United States
p-p44/42 MAPK (Erk1/2) (Thr202/Tyr204)	9101	Cell Signaling Technology, Massachusetts, United States
p-STAT3 (Tyr705)	9131s	Cell Signaling Technology, Massachusetts, United States
IGF-I Receptor β	3027	Cell Signaling Technology, Massachusetts, United States
p-NFkB p65 (Ser536)	3033s	Cell Signaling Technology, Massachusetts, United States
GAPDH	sc-47724	Santa Cruz Biotechnology, Texas, United States
Goat Anti-Rabbit IgG	401353	Merck KGaA, Darmstadt, Germany
Goat Anti-Mouse IgG	401253	Merck KGaA, Darmstadt, Germany

Supplementary Table 4. GO enrichment analysis associated with TF targets (F3, F7, F2R, F2RL1, and TFPI), Sdc-1 with respect to IL6, IL8, VEGF and IGF-IR. The program STRING was used for this analysis.

Category	Pathway description	Observed gene count	False discovery rate	Matching proteins in your network (labels)
Molecular function	Vascular endothelial growth factor-activated receptor activity	4	8,40E-07	FLT4,KDR,NRP1,FLT1
	Vascular endothelial growth factor binding	4	8,40E-07	FLT4,KDR,NRP1,FLT1
	Transmembrane receptor protein tyrosine kinase activity	5	5,90E-06	FLT4,KDR,NRP1,IGF1R,FLT1
	Signaling receptor binding	12	5,90E-06	SDCBP,KDR,IGF1R,F2RL1,IGF1,IRS1,CXCL8,F2R,PTPN11,F7,IL6,VEGFA

	Insulin receptor binding	4	1,03E-05	IGF1R,IGF1,IRS1,PTPN11
	Protein binding	19	2,19E-05	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,CXCR1,F2RL1,IGF1,IRS1,CXCL8,CXCR2,F2R,F3,PTPN11,F7,SDC1,IL6,VEGFA
	Transmembrane signaling receptor activity	10	4,48E-05	FLT4,KDR,NRP1,IGF1R,FLT1,CXCR1,F2RL1,CXCR2,F2R,F3
	Growth factor binding	5	9,20E-05	FLT4,KDR,NRP1,IGF1R,FLT1
	Interleukin-8 receptor activity	2	0,0015	CXCR1,CXCR2
	Interleukin-8 binding	2	0,0023	CXCR1,CXCR2
Cellular component	Intrinsic component of plasma membrane	13	1,26E-06	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,F2RL1,IRS1,CXCR2,F2R,F3,SDC1,IL6
	Receptor complex	8	1,96E-06	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,IRS1,IL6
	Integral component of plasma membrane	12	4,17E-06	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,F2RL1,IRS1,CXCR2,F2R,SDC1,IL6
	Plasma membrane	17	4,83E-05	TFPI,SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,CXCR1,F2RL1,IGF1,IRS1,CXCR2,F2R,F3,F7,SDC1,IL6
	Cell surface	8	0,00023	TFPI,NRP1,CXCR1,CXCR2,F2R,F3,SDC1,VEGFA
	Extracellular region	14	0,001	TFPI,SDCBP,FLT4,KDR,NRP1,FLT1,IGF1,CXCL8,F2R,F3,F7,SDC1,IL6,VEGFA
	Serine-type peptidase complex	2	0,0021	F3,F7
	Insulin receptor complex	2	0,0023	IGF1R,IRS1
	Endomembrane system	14	0,0023	TFPI,SDCBP,KDR,NRP1,FLT1,CXCR1,F2RL1,IGF1,CXCR2,F2R,F7,SDC1,IL6,VEGFA
	Intrinsic component of membrane	15	0,0023	TFPI,SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,CXCR1,F2RL1,IRS1,CXCR2,F2R,F3,SDC1,IL6
Biological process	Positive regulation of cell migration	15	5,39E-16	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,F2RL1,IGF1,CXCL8,CXCR2,F2R,F3,F7,IL6,VEGFA
	Positive regulation of intracellular signal transduction	15	1,47E-12	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,F2RL1,IGF1,IRS1,F2R,F3,PTPN11,F7,IL6,VEGFA
	Positive regulation of chemotaxis	9	2,05E-11	KDR,NRP1,F2RL1,CXCL8,CXCR2,F3,F7,IL6,VEGFA
	Positive regulation of mapk	12	2,85E-11	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,F2RL1,IGF1,F2R,PTPN11,IL6,VEGFA

	cascade			
	Regulation of localization	18	6,91E-11	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,F2RL1,IGF1,IRS1,CXCL8,CXCR2,F2R,F3,PTPN11,F7,SDC1,IL6,VEGFA
	Positive regulation of multicellular organismal process	16	7,21E-11	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,F2RL1,IGF1,CXCL8,CXCR2,F2R,F3,PTPN11,F7,IL6,VEGFA
	Positive regulation of response to stimulus	17	8,89E-11	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,F2RL1,IGF1,IRS1,CXCL8,CXCR2,F2R,F3,PTPN11,F7,IL6,VEGFA
	Positive regulation of cell population proliferation	13	2,88E-10	SDCBP,FLT4,KDR,NRP1,IGF1R,FLT1,IGF1,IRS1,CXCR2,F2R,F3,IL6,VEGFA
	Response to organic substance	18	2,88E-10	TFPI,FLT4,KDR,NRP1,IGF1R,FLT1,CXCR1,IGF1,IRS1,CXCL8,CXCR2,F2R,F3,PTPN11,F7,SDC1,IL6,VEGFA
	Positive regulation of positive chemotaxis	6	3,33E-10	KDR,F2RL1,CXCL8,F3,F7,VEGFA

Supplementary Table 5. KEGG pathways associated with TF targets (F3, F7, F2R, F2RL1, and TFPI), Sdc-1 with respect to IL6, IL8, VEGF and IGF-IR according to KEEG enrichment analysis. The program STRING was used for this analysis.

Pathway description	Observed gene count	False discovery rate	Matching proteins in your network (labels)
PI3K-Akt signaling pathway	9	9,98E-09	FLT4,KDR,IGF1R,FLT1,IGF1,IRS1,F2R,IL6,VEGFA
Rap1 signaling pathway	7	1,65E-07	FLT4,KDR,IGF1R,FLT1,IGF1,F2R,VEGFA
Ras signaling pathway	7	2,35E-07	FLT4,KDR,IGF1R,FLT1,IGF1,PTPN11,VEGFA
EGFR tyrosine kinase inhibitor resistance	5	1,50E-06	KDR,IGF1R,IGF1,IL6,VEGFA
Focal adhesion	6	2,58E-06	FLT4,KDR,IGF1R,FLT1,IGF1,VEGFA
Proteoglycans in cancer	6	2,58E-06	KDR,IGF1R,IGF1,PTPN11,SDC1,VEGFA
HIF-1 signaling pathway	5	3,71E-06	IGF1R,FLT1,IGF1,IL6,VEGFA
MAPK signaling pathway	6	1,48E-05	FLT4,KDR,IGF1R,FLT1,IGF1,VEGFA
Phospholipase D signaling pathway	5	1,48E-05	CXCR1,CXCL8,CXCR2,F2R,PTPN11

Pathways in cancer	7	1,81E-05	FLT4,IGF1R,IGF1,CXCL8,F2R,IL6,VEGFA
Epithelial cell signaling in Helicobacter pylori infection	4	2,25E-05	CXCR1,CXCL8,CXCR2,PTPN11
Transcriptional misregulation in cancer	5	2,25E-05	IGF1R,FLT1,IGF1,CXCL8,IL6
Complement and coagulation cascades	4	4,11E-05	TFPI,F2R,F3,F7
Rheumatoid arthritis	4	4,38E-05	FLT1,CXCL8,IL6,VEGFA

Supplementary Table 6. Statistical co-citation analysis associated with TF targets (F3, F7, F2R, F2RL1, and TFPI), Sdc-1 with respect to IL6, IL8, VEGF and IGF-IR according to PubMed. The program STRING was used for this analysis.

Pathway description	Observed gene count	False discovery rate	Matching proteins in your network (labels)
(2011) Pharmacogenetic angiogenesis profiling for first-line Bevacizumab plus oxaliplatin-based chemotherapy in patients with metastatic colorectal cancer.	9	2.27e-15	KDR,NRP1,CXCR1,IGF1,CXCL8,CXCR2,F3,IL6,VEGFA
(2011) Targeting angiogenesis in childhood sarcomas.	9	8.41e-14	FLT4,KDR,IGF1R,FLT1,IGF1,IRS1,CXCL8,IL6,VEGFA
(2011) HCC and angiogenesis: possible targets and future directions.	9	9.02e-14	FLT4,KDR,FLT1,CXCR1,IGF1,CXCL8,CXCR2,IL6,VEGFA
(2016) The molecular mechanisms of hemodialysis vascular access failure.	9	4.39e-13	KDR,FLT1,IGF1,CXCL8,CXCR2,F3,SDC1,IL6,VEGFA
(2019) The role of vascular endothelial growth factor, interleukin 8, and insulin like growth factor in sustaining autophagic DIRAS3-induced dormant ovarian cancer xenografts.	8	4.90e-13	KDR,IGF1R,FLT1,CXCR1,IGF1,CXCL8,IL6,VEGFA
(2018) Receptor tyrosine kinases (RTKs) in breast cancer: signaling, therapeutic implications and challenges.	10	8.42e-13	FLT4,KDR,IGF1R,FLT1,IGF1,IRS1,CXCL8,SDC1,IL6,VEGFA
(2015) Modulation of cellular signaling by herpesvirus-encoded G protein-coupled receptors.	10	8.42e-13	KDR,IGF1R,FLT1,CXCR1,IGF1,CXCL8,CXCR2,F2R,IL6,VEGFA
(2013) Current status of bevacizumab in advanced ovarian cancer.	8	8.42e-13	FLT4,KDR,NRP1,FLT1,IGF1,CXCL8,IL6,VEGFA
(2016) Glioblastoma Stem Cells Microenvironment: The	10	9.28e-13	FLT4,KDR,IGF1R,FLT1,CXCR1,IGF1,CXCL8,CXCR2,IL6,V

Paracrine Roles of the Niche in Drug and Radioresistance.			EGFA
(2012) Integrin-mediated cell-matrix interaction in physiological and pathological blood vessel formation.	10	1.23e-12	TFPI,KDR,NRP1,FLT1,IRS1,CXCL8,F3,PTPN11,SDC1,VEGFA
(2011) Pharmacogenetic angiogenesis profiling for first-line Bevacizumab plus oxaliplatin-based chemotherapy in patients with metastatic colorectal cancer.	9	2.27e-15	KDR,NRP1,CXCR1,IGF1,CXCL8,CXCR2,F3,IL6,VEGFA
(2011) Targeting angiogenesis in childhood sarcomas.	9	8.41e-14	FLT4,KDR,IGF1R,FLT1,IGF1,IRS1,CXCL8,IL6,VEGFA
(2011) HCC and angiogenesis: possible targets and future directions.	9	9.02e-14	FLT4,KDR,FLT1,CXCR1,IGF1,CXCL8,CXCR2,IL6,VEGFA
(2016) The molecular mechanisms of hemodialysis vascular access failure.	9	4.39e-13	KDR,FLT1,IGF1,CXCL8,CXCR2,F3,SDC1,IL6,VEGFA
(2019) The role of vascular endothelial growth factor, interleukin 8, and insulin like growth factor in sustaining autophagic DIRAS3-induced dormant ovarian cancer xenografts.	8	4.90e-13	KDR,IGF1R,FLT1,CXCR1,IGF1,CXCL8,IL6,VEGFA