

Supplementary Materials for

Blockade of Nonhormonal Fibroblast Growth Factors by FP-1039 Inhibits Growth of Multiple Types of Cancer

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SUPPLEMENTARY MATERIALS

Supplementary Figure S1

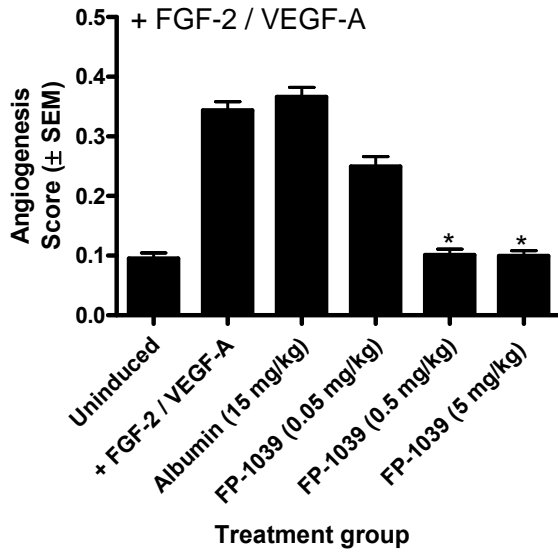
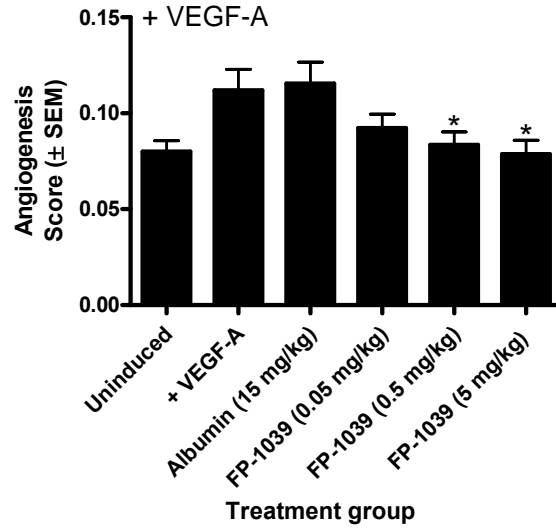
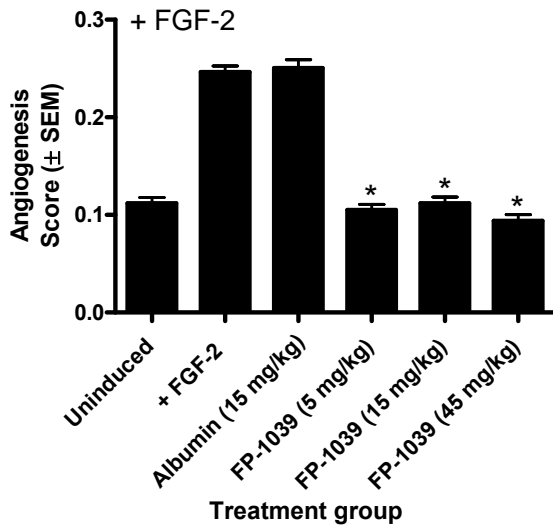


Fig. S1. FP-1039-mediated inhibition of FGF-2- and VEGF-A-induced angiogenesis in the Matrigel plug assay. Recombinant human FGF-2 (final concentration 250 ng/ml; Peprotech), recombinant human VEGF (final concentration 100 ng/ml; Peprotech) and FGF-2 / VEGF-A in combination were added to matrigel (BD Biosciences, Franklin Lakes, NJ) with sodium heparin (2 units/ml; Sigma). FGF-2 and/or VEGFA containing matrigel plugs (one per animal) were implanted subcutaneously in the abdomen region of C57BL/6 mice (Charles River, Wilmington, MA). FP-1039 was administered by tail vein injection on days 1, 4, and 7 post-matrigel implantation. On day 9, plugs were excised and processed for hematoxylin and eosin (H&E) staining, and the angiogenic response quantitated. Digital images of the stained matrigel sections were generated using a Retiga 2000R digital camera (QImaging, Burnaby, BC). Image analysis was performed using Image-Pro Plus 5.1 (Media Cybernetics Inc., Silver Spring, MD). Neovascularization was defined as the cellular response in the Matrigel plugs, consisting of newly formed blood vessels and migrated cells. * indicates statistical significance ($P < 0.05$) comparing FP-1039-treated to FGF-2 and/or VEGF-A treated groups.

Supplementary Figure S2

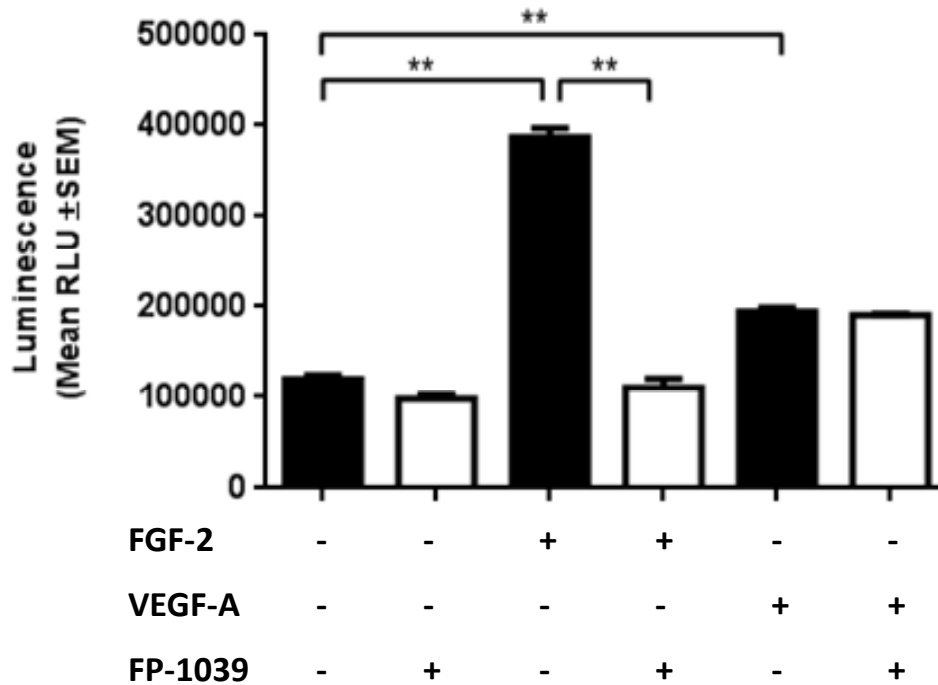


Fig. S2. FP-1039 does not inhibit VEGF-A-induced human umbilical vein endothelial cell (HUVEC) proliferation. HUVEC cells (Life Technologies, Grand Island, NY) were seeded at a density of 4×10^3 cells/well in basal media (Medium 200 (Life Technologies) with 2% heat inactivated FBS) and stimulated with either 10 ng/ml FGF2 (R&D Systems, Minneapolis, MN) or 15 ng/ml VEGF-A₁₆₅ (R&D Systems, Minneapolis, MN) either in the presence of absence of 10 μ g/ml FP-1039. HUVEC cell proliferation was determined 3 days post-stimulation using CellTiter-Glo® Luminescent Cell Viability Assay. ** indicates statistical significance ($P < 0.01$).

Supplementary Figure S3

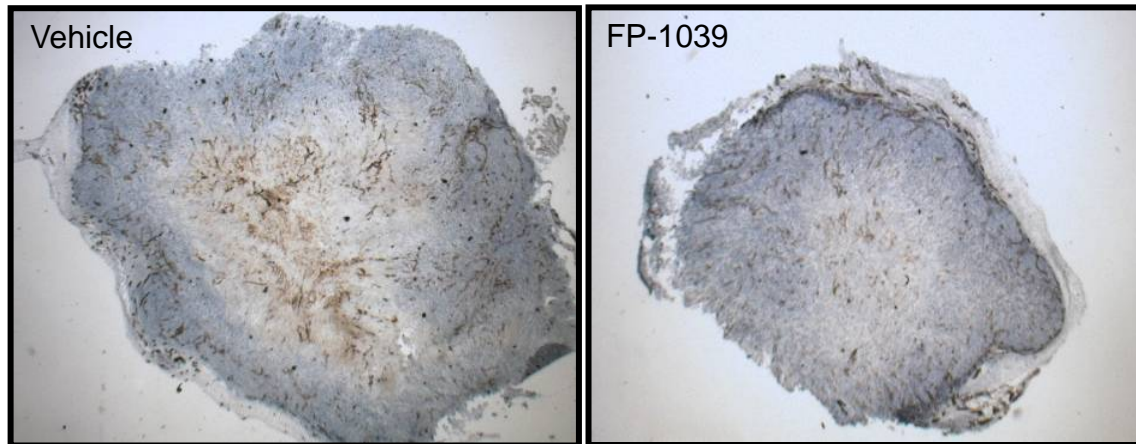


Fig. S3. FP-1039 inhibits tumor angiogenesis in the Caki-1 RCC xenograft model.

Human renal carcinoma Caki-1 cells (1.5×10^7 cells/mouse) cells were implanted subcutaneously into the right flank of CB17-SCID mice. One day after tumor implantation, the mice were randomized and treated intravenously with either vehicle or FP-1039 (5 mg/kg) twice a week. At the end of the study (Day 57), tumors were excised (N=3/gp) and used for histological analysis. Frozen sections were probed with anti-mouse CD31 monoclonal antibody (BD Biosciences, Franklin Lakes, NJ) and visualized using HRP-conjugated secondary antibody coupled with diaminobenzidine staining (brown color). Slides were counter-stained with hematoxylin to identify cell nuclei (blue color). Representative sections are shown (5x magnification).

Supplementary Figure S4

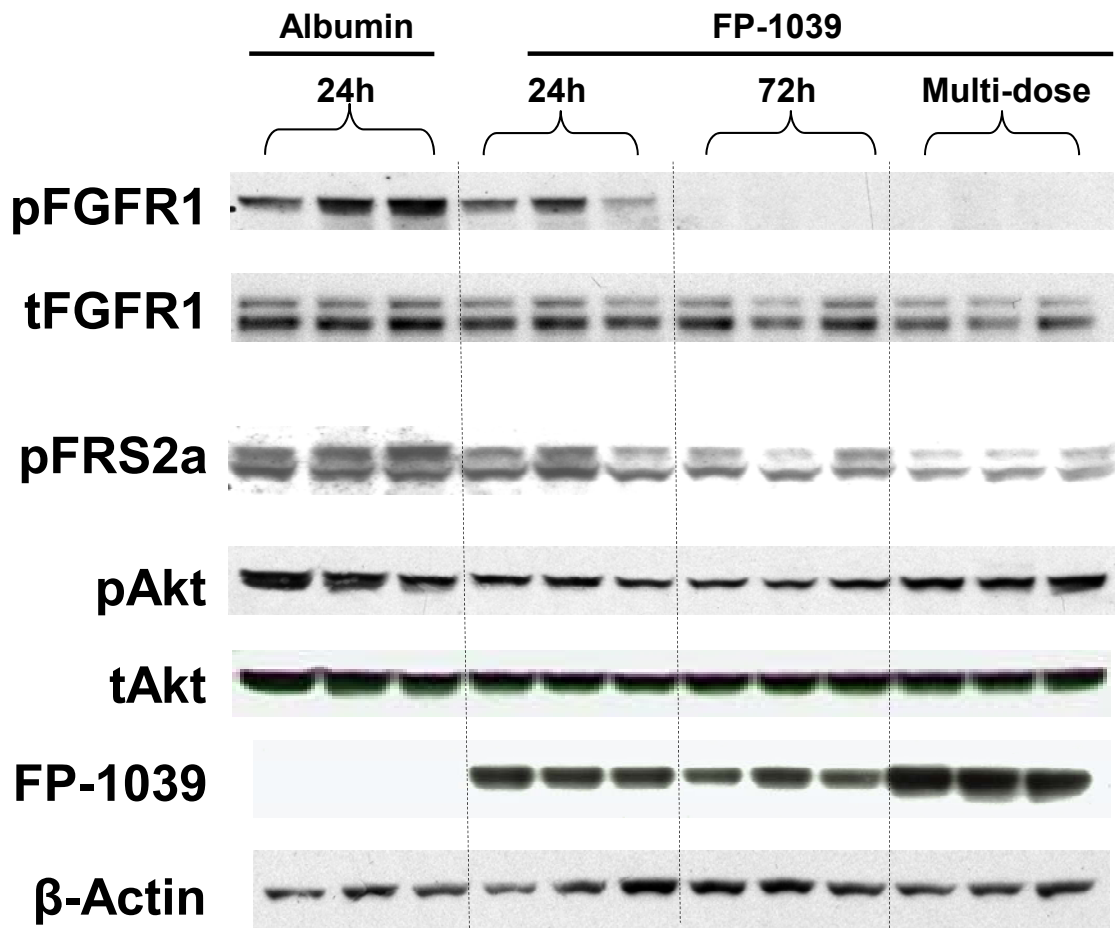


Fig. S4. FP-1039-mediated inhibition of FGFR1 signaling in the JIMT-1 breast cancer

xenograft model. Animals with established (200mm^3) human breast cancer JIMT-1 tumors were administered either a single (24 and 72 hour timepoints) or three times per week (multidose) i.p. dose(s) of FP-1039 at 15 mg/kg. Tumor samples were collected at 24 and 72 hours post-dose for the single dose groups and 48 hours post the last dose in multi-dose group, snap-frozen in liquid nitrogen and lysed in RIPA buffer (Sigma Aldrich, St Luis, MO). Tumor lysates were separated by SDS-PAGE and western blotting was performed using monoclonal antibodies FGFR1, pFGFR1, FRS2 α , pFRS2 α , Akt, pAkt, and β Actin (Cell Signaling Technology, Inc). FP-1039 was detected using anti-human Fc monoclonal antibody (Jackson Immuno Research).

Supplemental Figure S5

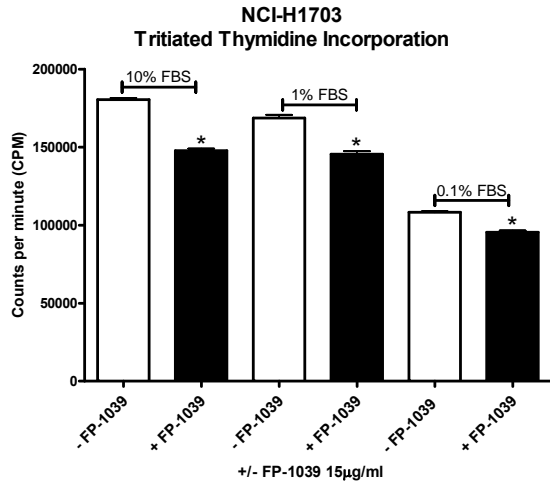
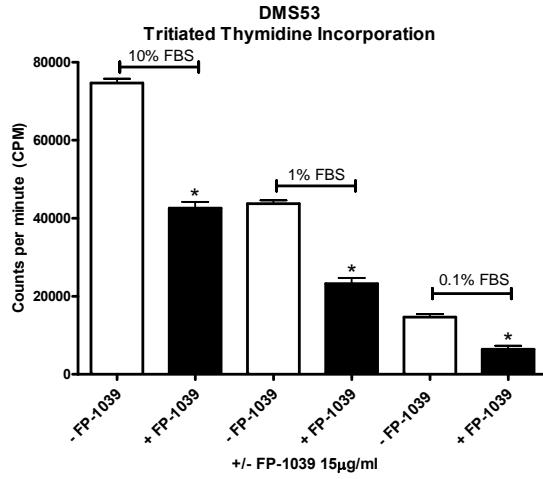
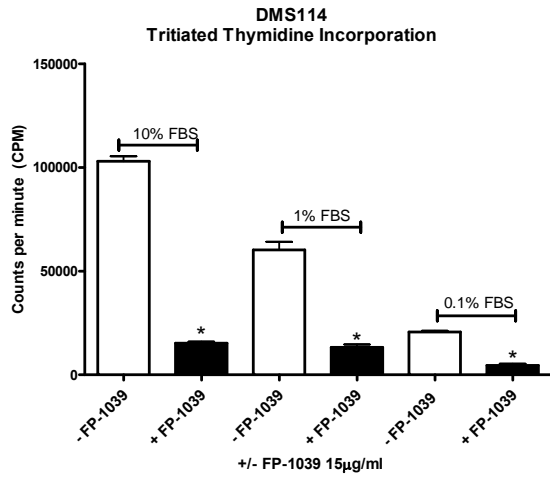
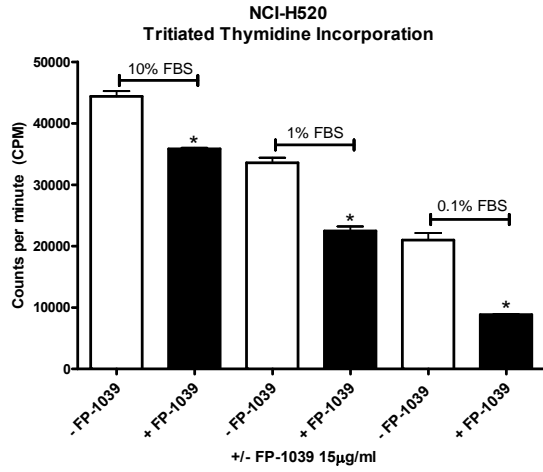
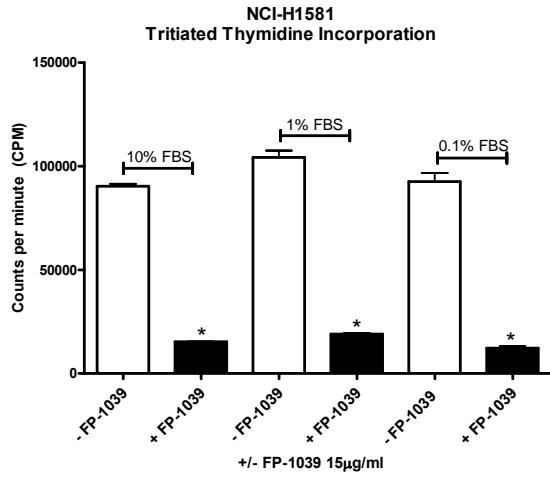


Fig. S5. Lung cancer cell lines with *FGFR1* gene amplification are inhibited by FP-1039 in vitro as assessed by CellTiter-Glo Luminescent Cell Viability Assay. Cells were plated in a Microtest™ 96-well tissue culture plate (Becton Dickinson, Franklin Lakes, NJ) at a density of 5×10^3 cells/well in medium containing 10%, 1% or 0.1% FBS in the presence of varying concentrations of FP-1039 or an unrelated ECD-Fc negative control. Plates were incubated at 37°C at 5% CO₂ for 4 days and then assayed for cell viability using the CellTiter-Glo® Luminescent Cell Viability Assay (Promega, Madison, WI). Luminescence was determined on an EnVision™ Multilabel Plate Reader (PerkinElmer, Boston, MA) with a 0.2 second integration time. Results were expressed as relative light units (RLU) / well. * indicates statistical significance ($P < 0.05$) comparing FP-1039-treated to control, non-treated groups.

Supplementary Figure S6

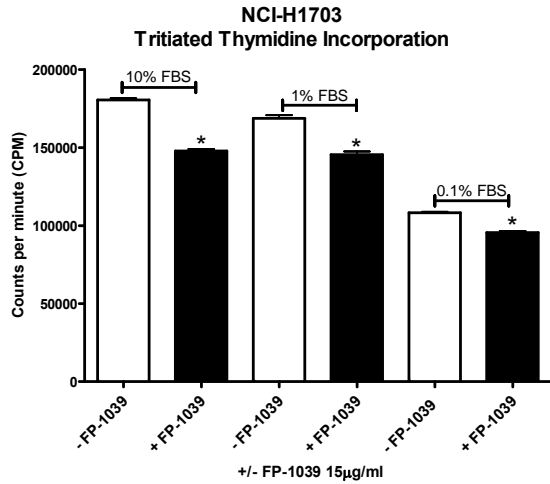
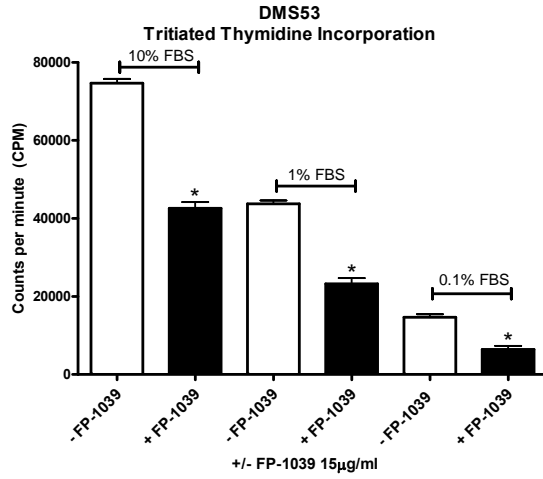
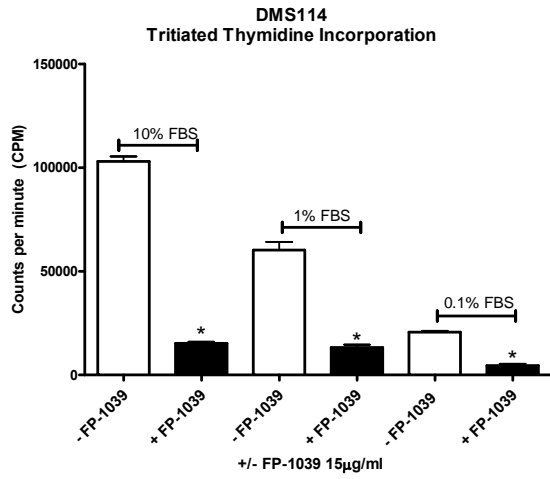
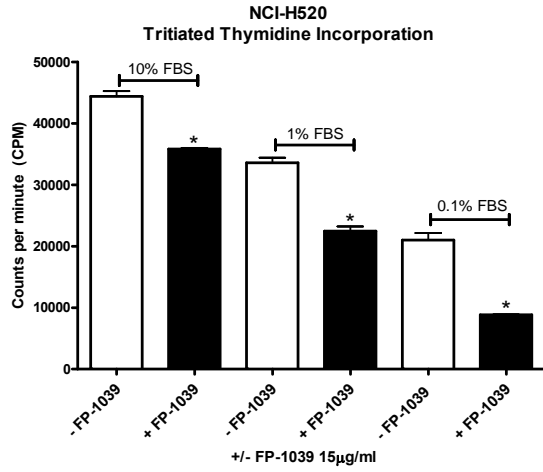
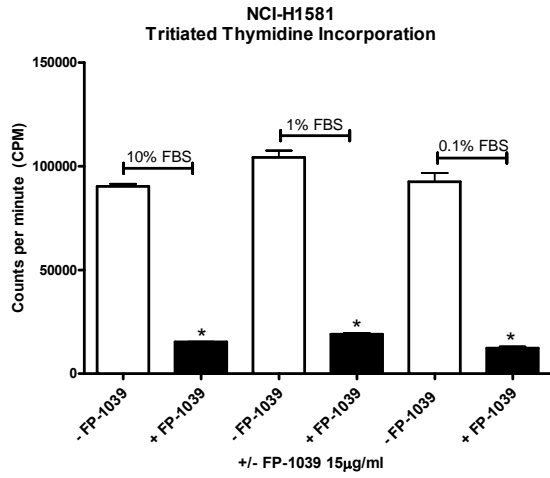


Fig. S6. Lung cancer cell lines with *FGFR1* gene amplification are inhibited by FP-1039 in vitro as assessed by tritiated thymidine incorporation assay. Cells were plated in a MicrotestTM 96-well tissue culture plate (Becton Dickenson) at a density of 5×10^3 cells/well in medium containing 10%, 1% or 0.1% FBS in the presence of varying concentrations of FP-1039 or an unrelated ECD-Fc negative control. Plates were incubated at 37°C at 5% CO₂ for 4 days and then assayed for cell proliferation. Tritiated thymidine ([³H]-TdR; PerkinElmer) was added to cell culture media at activity of 1 μCi/well. After 16-h exposure, tritiated thymidine incorporation was assessed by scintillation. Thymidine incorporation was determined as counts per minute (cpm) on a Topcount NXT (PerkinElmer) scintillation counter. Results were expressed as cpm/well. * indicates statistical significance ($P < 0.05$) comparing FP-1039-treated to control, non-treated groups.

Supplementary Table S1. Summary of FP-1039 antitumor activity in a panel of xenograft models.

Tumor type	Xenograft model	Cell line / PDX	Dosing route	Dose	Dose schedule*	TGI (%)	P Value	<i>FGFR1</i> gene amplification status
Colon	HCT116	Cell Line	IP	15 mg/kg	BIW	0%	ns	Non-amplified
	Colo205	Cell Line	IV	5 mg/kg	BIW	38%	$P < 0.001$	Non-amplified
	Colo201	Cell Line	IP	15 mg/kg	BIW	0%	ns	Non-amplified
Renal	G-401	Cell Line	IP	15 mg/kg	BIW	36%	$P < 0.05$	Non-amplified
	A498	Cell Line	IP	15 mg/kg	BIW	7%	ns	Non-amplified
	Caki-1	Cell Line	IV	10 mg/kg	BIW	81%	$P < 0.001$	Non-amplified
Lung	A549	Cell Line	IP	10 mg/kg	BIW	38%	$P < 0.05$	Non-amplified
	NCI-H460	Cell Line	IP	10 mg/kg	BIW	35%	$P < 0.05$	Non-amplified
	NCI-H226	Cell Line	IP	15 mg/kg	3x/w	55%	$P < 0.001$	Non-amplified
	NCI-H520	Cell Line	IP	20 mg/kg	BIW	47%	$P < 0.05$	Amplified
	NCI-H1703	Cell Line	IP	15 mg/kg	BIW	31%	$P < 0.05$	Amplified
	NCI-H2126	Cell Line	IP	15 mg/kg	BIW	0%	ns	Non-amplified
	NCI-H441	Cell Line	IP	15 mg/kg	BIW	0%	ns	Non-amplified
	NCI-H358	Cell Line	IP	15 mg/kg	BIW	0%	ns	Non-amplified
	NCI-H522	Cell Line	IP	10 mg/kg	BIW	42%	$P < 0.05$	Non-amplified
	NCI-H1581	Cell Line	IP	15 mg/kg	BIW	74%	$P = 0.002$	Amplified
	DMS53	Cell Line	IP	15 mg/kg	BIW	64%	0.003	Amplified
	DMS114	Cell Line	IP	15 mg/kg	BIW	64%	$P < 0.001$	Amplified
	Calu-1	Cell Line	IP	15 mg/kg	BIW	0%	ns	Non-amplified
	D35087	PDX	IP	15 mg/kg	BIW	57%	$P < 0.01$	Non-amplified
	D37638	PDX	IP	15 mg/kg	BIW	20%	ns	Non-amplified
	D35376	PDX	IP	15 mg/kg	BIW	15%	ns	Non-amplified
LXFA-737	PDX	IP	15 mg/kg	BIW	0%**	ns	Non-amplified	

	LXFA-629	PDX	IP	15 mg/kg	BIW	65%	$P = 0.007$	Non-amplified
Methothelioma	MSTO-211H	Cell Line	IP	15 mg/kg	BIW	64%	$P < 0.0001$	Non-amplified
Glioblastoma	U-87	Cell Line	IP	15 mg/kg	BIW	0%	ns	Non-amplified
	U-118	Cell Line	IP	15 mg/kg	BIW	36%	ns	Non-amplified
	U-251	Cell Line	IP	15 mg/kg	BIW	48%	$P = 0.0078$	Non-amplified
Retinoblastoma	Y79	Cell Line	IP	10 mg/kg	BIW	21%	ns	Non-amplified
Prostate	Du145	Cell Line	IP	0.15 mg/kg	3x/w	31%	ns	Non-amplified
Endometrial	MFE-280	Cell Line	IP	15 mg/kg	BIW	96%	$P < 0.001$	Non-amplified
	HEC-1B	Cell Line	IP	15 mg/kg	BIW	30%	$P < 0.05$	Non-amplified
	MFE-319	Cell Line	IP	15 mg/kg	BIW	22%	ns	Non-amplified
Breast	MDA-MB-231	Cell Line	IP	15 mg/kg	BIW	0%	ns	Non-amplified
	JIMT1	Cell Line	IP	1 mg/kg	BIW	28%	$P < 0.05$	Non-amplified

*BIW Biweekly

**%TGI for LXFA737 was less than zero

Supplementary Table S2. Characteristics of lung cancer patient-derived xenograph (PDX) models

Tumor	Tissue type	Origin	Differentiation	Patient age	Gender	Stage
LXFA-629	Adeno	Lung	poorly differentiated	59	male	T3N2Mx
LXFA-737	Adeno	Lung	moderately differentiated	56	male	T3N2Mx
PDX D35087	Squamous	Lung	moderately differentiated	-	-	T3N0M0
PDX D37638	Squamous	Lung	poorly differentiated	-	-	T3N2M0
PDX D35376	Squamous	Lung	moderately differentiated	-	-	T2N0M0

Supplementary Table S3. qRT-PCR gene expression data for xenograft models. Gene expression values for xenograft models from Table S1. Values determined by qRT-PCR normalized to GUSB. NA indicates no data and 0 indicates no detectable expression.

Gene	A498	A549	Caki-1	Calu-1	Colo201	Colo205	D35087
AREG	0.007391	0.188156	1.24833	0.141611	1.1487	0.5	5.41702
CA12	6.49802	1.46409	1.00696	0.064257	0.003826	0.011924	NA
CDH1	0.001253	1.79005	0.269807	0.071298	3.94493	11.7942	NA
DKK3	0.128514	0.028557	1.01396	2	0.000157	0	3.50594
DUSP4	0.000171	0.066064	0.007977	0.028956	0.085378	0.171943	NA
DUSP5	0.026645	0.102238	0.68302	0.697372	0.125869	0.07966	NA
DUSP6	0.083043	0.203063	3.27161	1.18921	3.11666	0.570382	NA
EGF	0.004072	0.010525	0.036398	0.065607	0.000162	4.11E-05	NA
EGFR	0.646176	0.353553	0.450625	0.97942	0.558644	0.438303	NA
ELK3	0.04095	0.307786	0.76313	1.44393	0.085378	0.065607	NA
ELK4	0.000015	6.28E-05	0.000265	7.67E-05	0.000513	0.000322	NA
ERBB2	0.096723	0.185565	0.712025	0.271684	0.528509	0.566442	NA
ERBB3	0.456916	0.50698	0.22688	0.001677	1.23114	0.757858	2.53696
EREG	0	0.080772	2.11404	0.673617	1.03526	0.129408	0.03438
ETV4	0.010672	0.697372	0.346277	0.351111	0.297302	0.624165	3.77951
ETV5	0.034674	0.200267	0.784584	0.528509	0.303549	0.389582	NA
FGF1	0.037421	0.00357	0.001186	0.043889	0.04095	0.021051	0.681223
FGF10	0	1.17E-05	3.73E-05	0.000147	2.69E-05	2.19E-05	1.73E-05
FGF11	0.076947	0.003173	0.01937	0.000644	0.003696	0.002182	0.753929
FGF16	0	0.000348	0.000804	0.000649	0.002372	0.00143	0.011209
FGF17	4.72E-05	0.000148	4.14E-05	0.000156	0.001391	0.00093	0.000251
FGF18	0.000735	0.00194	0.004129	0.107321	0.006801	0.015303	0.012216
FGF19	0	0.000207	0	0	0.358489	0.721965	NA
FGF2	0.035158	0.166086	0.524858	0.000581	0	0	NA
FGF20	0.000159	0.000246	0.018841	0.005799	0.000115	0	NA
FGF21	4.29E-05	3.58E-05	0	2.55E-05	0.000918	0.000561	NA
FGF22	0.003002	0.004581	0.002879	0.004581	0.003285	0.002244	NA
FGF3	1.09E-05	0	0	0	0.021945	0.036147	NA
FGF4	0	0	0	0	0	0	NA
FGF5	0.020054	1.01E-05	0.033262	0.248273	0	2.83E-05	0.005164
FGF6	0	0	0	0	0	0	NA
FGF7	4.23E-05	0	9.3E-06	0.000143	0	3.01E-05	0
FGF8	0.000116	3.12E-05	0.000338	3.63E-05	0.00296	0.000918	0.000517
FGF9	0.000672	0.000735	0.001994	0.003545	0.037682	0.035649	NA
FGFBP1	0.001245	0.111878	2.01391	0.002405	0.006434	0.0017	NA
FGFBP2	7.46E-05	0.001253	0.005839	0.002137	0.00148	0.000355	NA

Supplementary Table S3 (continued)

Gene	A498	A549	Caki-1	Calu-1	Colo201	Colo205	D35087
FGFBP3	0.000203	0.001861	0.003217	0.000868	0.001642	0.002438	NA
FGFR1	0.356012	0.535887	1.1487	1.53688	0.664343	0.126745	4.30765
FGFR1b	0.000152	0.000309	0.000288	0.000282	0.000963	0.000456	NA
FGFR1c	0.119908	0.131215	0.193446	0.646176	0.114229	0.009753	0.381142
FGFR2	0.166086	0.001186	0.00072	0.001554	0.092142	0.003401	2.3227
FGFR2b	0.009163	0.000334	8.63E-05	0.000169	0.045753	0.001797	NA
FGFR2c	0.196146	0.000175	0.000133	0.000804	0.000275	8.51E-05	0.00162
FGFR3	0.327598	0.044811	0.456916	0.033493	0.148651	0.038741	4.50554
FGFR3b	0.006661	0.006003	0.006524	0.00014	0.023036	0.010167	NA
FGFR3c	0.039555	0.001576	0.063813	0.005048	0	0	0.001059
FGFR4	0.167241	0.111105	0.558644	0.000399	0.184284	0.107321	0.041146
FLRT1	0.002489	0.02352	0.01209	0.007867	0.040107	0.076415	NA
FLRT2	4.03E-05	0.042986	0.003879	1.12506	0	5.24E-05	NA
FLRT3	0.001586	0.051474	0.042986	0.000052	0.000186	0.001773	NA
HGF	0	0.007977	0.033961	0.000725	0	0	0
IGF1	0.000405	0.002613	0	0.000381	3.25E-05	0	NA
IGF1R	0.02977	0.598739	0.071794	0.469761	1.10957	1.01396	NA
IGF2	0.004129	0.05954	0.060371	0.043285	0.002438	0.000299	NA
KDR	0.000502	8.34E-05	0.000238	0.01418	0.000478	0.000122	0.000281
MET	1.28343	0.503478	7.26015	1.50525	0.790041	0.366021	NA
MMP1	2.51E-05	0.018841	0.007599	0.303549	0.000413	0.000899	NA
MMP2	1.54E-05	0.030186	0.888843	2.39496	0	0	12.3138
NCAM1	0.05366	5.85E-05	0.000485	0.000394	0.000159	2.44E-05	NA
PDGFRa	0.000627	0.00095	0.173139	0.219151	0	0	0.023016
PDGFRb	0.001887	0.000735	0.021793	0.952638	0.002405	0.001114	NA
PLAU	0.013888	0.267943	5.20537	0.456916	0.271684	0.289172	NA
PLAUR	0.228458	0.97942	0.920188	1.94531	0.582367	0.248273	NA
SERPINE1	0.61132	0.230047	1.94531	9.00047	0.077482	0.105843	NA
SOX9	0.602904	1.26576	2.82843	1.72907	1.87905	4.85678	NA
SPRY1	0.013415	0.022718	0.160428	0.198884	0.119908	0.186856	NA
SPRY2	0.028756	0.136787	0.5	0.301452	0.395021	0.50698	NA
SPRY3	0.002668	0.003086	0.014579	0.001491	0.002668	0.003521	0.003134
SPRY4	0.002372	0.001565	0.005336	0.022876	0.009163	0.020905	NA
TGFa	0.456916	0.051833	0.258816	0.009552	0.271684	0.127626	NA
TNC	0.002542	0.007139	0.222211	1.67018	0.50698	0.123279	NA
VIM	27.0958	13.8326	122.786	60.9688	0.336808	0.166086	43.9259

Supplementary Table S3 (continued)

Gene	D35376	D37638	DMS114	DMS53	Du145	G-401	HCT116
AREG	0.004051	1.51362	0.000292	0.008144	0.166086	0.0019	2.18859
CA12	NA	NA	NA	NA	0.015303	0.02936	0.026278
CDH1	NA	NA	NA	NA	0.933033	0.003262	1.09429
DKK3	0.000737	3.12315	NA	NA	0.010237	0.018073	5.43E-05
DUSP4	NA	NA	NA	NA	0.01468	0.000155	0.052193
DUSP5	NA	NA	NA	NA	0.028956	0.011281	0.316439
DUSP6	NA	NA	NA	NA	0.692555	2.63902	4.08405
EGF	NA	NA	0	0.000918	0.065607	1.09E-05	0.008609
EGFR	NA	NA	NA	NA	0.594604	0.000399	1.42405
ELK3	NA	NA	NA	NA	0.041521	0.156041	0.234881
ELK4	NA	NA	NA	NA	0.000023	6.28E-05	0.000104
ERBB2	NA	NA	NA	NA	0.389582	0.121582	0.217638
ERBB3	0.000903	0.108909	0.001913	0.012691	0.260616	0.031686	0.231647
EREG	0	0.002591	0	9.93E-06	0.034197	0.003853	5.65685
ETV4	0.151082	1.54928	NA	NA	0.014579	1.20581	0.15822
ETV5	NA	NA	NA	NA	0.046071	0.426317	0.371131
FGF1	0.000328	0.050036	NA	NA	0.001631	0.000176	0.034674
FGF10	0.000157	0.00023	NA	NA	3.39E-05	0.5	0.000192
FGF11	0.012728	0.101173	NA	NA	0.008669	0.251739	0.022876
FGF16	0.026669	0.026479	NA	NA	0.000585	0.000311	0.000918
FGF17	0.000632	0.006306	NA	NA	0.006801	0.000681	0.011359
FGF18	0.000445	0.002484	NA	NA	0.00286	0.003826	0.03082
FGF19	NA	NA	NA	NA	0.000128	0.000937	0.035897
FGF2	NA	NA	NA	NA	0.107321	0.008373	0.10083
FGF20	NA	NA	NA	NA	0.00145	0.30566	0.00613
FGF21	NA	NA	NA	NA	0.000193	4.59E-05	0.000231
FGF22	NA	NA	NA	NA	0.008373	0.002668	0.01937
FGF3	NA	NA	NA	NA	0	6.23E-05	0.000331
FGF4	NA	NA	NA	NA	0	0	0
FGF5	5.91E-05	0.000808	NA	NA	0	1.84E-05	0
FGF6	NA	NA	NA	NA	0.000052	0	0.00015
FGF7	0	0	NA	NA	7.11E-05	0.000233	0.000045
FGF8	0.000961	0.001714	NA	NA	0.000301	0.01541	0.006003
FGF9	NA	NA	NA	NA	0.003065	0.001137	0.009227
FGFBP1	NA	NA	NA	NA	0.050067	0	0.248273
FGFBP2	NA	NA	NA	NA	0.001211	0.00029	0.005048

Supplementary Table S3 (continued)

Gene	D35376	D37638	DMS114	DMS53	Du145	G-401	HCT116
FGFBP3	NA	NA	NA	NA	0.000618	0.060371	0.00588
FGFR1	0.581641	0.709808	0.678302	0.078563	0.220676	1.32869	0.517632
FGFR1b	NA	NA	0	0	0.001665	5.62E-05	0.085378
FGFR1c	0.069464	0.386462	0.027585	0.01698	0.057512	0.473029	0.063373
FGFR2	0.000917	1.05416	0.008974	0.001084	0.033032	1.22264	0.137738
FGFR2b	NA	NA	NA	NA	0.023036	0.049721	0.118257
FGFR2c	0.000498	0.012137	NA	NA	0.00075	0.972655	0.000294
FGFR3	0.009346	0.580312	0.009163	0.002093	0.033262	0.025559	0.329877
FGFR3b	NA	NA	NA	NA	0.005799	0.000844	0.030607
FGFR3c	9.87E-05	0.00035	NA	NA	0.000135	0.003747	6.36E-05
FGFR4	0.000564	0.009061	0.002879	0.000168	0.004395	0.015953	0.042394
FLRT1	NA	NA	NA	NA	0.01698	0.005839	0.034197
FLRT2	NA	NA	NA	NA	0.009889	0.010027	0
FLRT3	NA	NA	NA	NA	0.007867	0.000886	0.002372
HGF	0.044508	0.009057	NA	NA	6.2E-06	2.23457	0
IGF1	NA	NA	NA	NA	0.002036	0.000294	0
IGF1R	NA	NA	NA	NA	0.297302	0.065154	0.088388
IGF2	NA	NA	NA	NA	0.006754	0.104386	0.20166
KDR	0.000377	0.009784	NA	NA	0.00294	0.000142	0.000557
MET	NA	NA	NA	NA	0.119908	0.003747	1.1487
MMP1	NA	NA	NA	NA	0.044502	0.000184	0.002339
MMP2	0.000158	0.138658	NA	NA	0	0.325336	0
NCAM1	NA	NA	NA	NA	0.000061	0.562529	0.003401
PDGFRa	0.005323	0.038353	NA	NA	0.000208	0.001748	0
PDGFRb	NA	NA	NA	NA	0.001381	0.007443	0.00294
PLAU	NA	NA	NA	NA	0.289172	0.00324	0.297302
PLAUR	NA	NA	NA	NA	0.194791	0.035403	0.429283
SERPINE1	NA	NA	NA	NA	0.03983	0.001153	0.45376
SOX9	NA	NA	NA	NA	0.063813	0.012174	1.94531
SPRY1	NA	NA	NA	NA	0.004876	0.088388	0.030396
SPRY2	NA	NA	NA	NA	0.027017	0.721965	0.055553
SPRY3	0.00269	0.006099	7.89E-05	0.000644	0.007599	0.007922	0.020054
SPRY4	NA	NA	NA	NA	0.000162	0.00162	0.003773
TGFa	NA	NA	NA	NA	0.05954	0.000428	0.121582
TNC	NA	NA	NA	NA	0.014579	0.000162	0.000118
VIM	16.4293	3.26549	NA	NA	2.15846	38.5858	0.051119

Supplementary Table S3 (continued)

Gene	HEC-1B	JIMT1	LXFA-629	LXFA-737	MDA-MB-231	MFE-280	MFE-319
AREG	0.000804	0.0625	0.794269	0.941087	1.37554	0.001511	0.001271
CA12	2.8481	0.010672	NA	NA	0.119908	0.02683	0.035403
CDH1	0.033493	3.20428	NA	NA	0.000139	0.602904	0.895025
DKK3	0.646176	0.118257	0.039949	0.067093	0.000516	0.188156	0.000761
DUSP4	0.000446	0.023683	NA	NA	0.070805	0.001511	6.87E-05
DUSP5	0.203063	0.050067	NA	NA	0.432269	0.039282	0.02936
DUSP6	2.36199	0.183011	NA	NA	3.68075	1.3566	0.084202
EGF	0.00588	0.023196	NA	NA	0.011125	0.001061	0.00362
EGFR	0.432269	3.03143	NA	NA	1.86607	0.092783	0.307786
ELK3	0.628507	0.154963	NA	NA	0.539614	0.03983	0.037163
ELK4	0.000032	0.00143	NA	NA	8.28E-05	0	8.3E-06
ERBB2	0.535887	5.06303	NA	NA	0.11744	1.31039	0.48971
ERBB3	0.072293	0.271684	0.152936	1.94598	0.046071	0.309927	0.080214
EREG	2.08E-05	0.06164	0.067803	0.041083	0.25349	1.78E-05	0.000119
ETV4	0.528509	0.493116	0.185141	0.889459	0.210224	0.888843	0.011598
ETV5	0.371131	0.179244	NA	NA	0.248273	0.05672	0.017824
FGF1	0.003354	0.036398	0.0984	0.004799	0.077482	0.000462	0.001032
FGF10	3.03E-05	0	3.2E-05	2.51E-05	3.23E-05	0.000168	4.9E-06
FGF11	0.009552	0.017948	0.173307	0.554631	0.003086	0.057115	0.009037
FGF16	9.78E-05	0.002137	0.016327	0.025879	0.000341	0.000485	0.000147
FGF17	0.000821	0.024349	0.000633	0.003234	0.000391	0.034197	0.013139
FGF18	1.45397	0.057115	0.00032	0.001085	0.001362	0.049378	0.043586
FGF19	0	0	NA	NA	7.26E-05	0.008432	7.3E-06
FGF2	0.021793	0	NA	NA	0	0.009889	0.001598
FGF20	0.006896	0	NA	NA	0.001785	0.001004	0.000016
FGF21	2.66E-05	0.000452	NA	NA	1.25E-05	0.000084	7.1E-06
FGF22	0.00519	0.019237	NA	NA	0.003401	0.012691	0.049037
FGF3	0.000011	0.001289	NA	NA	0	0.000735	0
FGF4	0	0	NA	NA	0	0.000437	0
FGF5	0.001011	0.004364	0.006428	5.47E-05	0.181747	2.23E-05	7.8E-06
FGF6	0	0	NA	NA	9.5E-06	0	3.09E-05
FGF7	2.14E-05	0	0	0	4.14E-05	9.85E-05	0.003173
FGF8	0.001325	0.00064	7.08E-05	0.000522	8.11E-05	0.000331	0.000368
FGF9	0.001011	0.008549	NA	NA	0.000495	0.001245	0.013697
FGFBP1	0.20733	0.664343	NA	NA	0.002244	0.002355	0.002065
FGFBP2	0.003195	0.000428	NA	NA	0.000127	0.001887	0.003961

Supplementary Table S3 (continued)

Gene	HEC-1B	JIMT1	LXFA-629	LXFA-737	MDA-MB-231	MFE-280	MFE-319
FGFBP3	0.000267	0.003065	NA	NA	0.00734	0.001047	0.00162
FGFR1	0.479632	5.89708	0.6208	0.448755	0.524858	1.22264	0.554785
FGFR1b	0.000475	0.204476	NA	NA	0.00097	0.00734	0.000509
FGFR1c	0.236514	1.86607	0.114633	0.108525	0.204476	1.02101	0.267943
FGFR2	0.050067	1.21419	0.121945	0.001513	0.003065	0.027394	0.211686
FGFR2b	0.012344	0.602904	NA	NA	0.001169	0.014279	0.160428
FGFR2c	0.016289	0.005448	2.79E-05	0.000266	0.000137	0.001178	0.009486
FGFR3	0.200267	0.840896	1.05256	1.51215	0.005154	0.094732	0.062935
FGFR3b	0.023196	0.148651	NA	NA	0.00147	0.007391	0.005486
FGFR3c	0.013139	0.000194	0.000669	0.000864	0.000132	0.000144	0.000152
FGFR4	0.225313	0.094732	0.005931	0.111491	0.000523	0.013985	0.004581
FLRT1	0.00362	0.018711	NA	NA	0.031034	0.041521	0.040667
FLRT2	0.001677	0	NA	NA	0.069348	0.00362	0.089003
FLRT3	0.041521	0	NA	NA	2.87E-05	0.002228	0.034197
HGF	2.62E-05	0	4.75E-05	0	0	5.13E-05	2.36E-05
IGF1	0	0.000581	NA	NA	0.000045	0.030186	0.000653
IGF1R	0.125869	0.61132	NA	NA	0.200267	0.063373	0.004743
IGF2	0.137738	0.196146	NA	NA	0.034197	0.0625	0.11744
KDR	0.000375	0.000233	0.000274	0.000304	0.01038	0.000686	0.001532
MET	4.46915	0.920188	NA	NA	0.450625	0.019915	0.057115
MMP1	0.021642	0.00162	NA	NA	0.45376	0.00093	0.002981
MMP2	0.162668	0.038741	0.67301	0.009119	0.000419	0.001381	0.000509
NCAM1	0.000104	9.58E-05	NA	NA	9.7E-06	0.039555	0.010027
PDGFRa	8.51E-05	0.001011	4.55E-06	0.001835	0.004016	0.018581	0.001253
PDGFRb	0.000862	0.002559	NA	NA	0.019915	0.003521	0.001025
PLAU	1.34723	1.40444	NA	NA	2.32947	0.007139	0.004581
PLAUR	0.316439	0.632878	NA	NA	0.757858	0.080772	0.008201
SERPINE1	0.096723	7.51618	NA	NA	2.82843	0.008432	0.001069
SOX9	0.858565	0.000145	NA	NA	0.429283	0.149685	0.004395
SPRY1	0.234881	0.00982	NA	NA	0.061214	0.039282	0.014989
SPRY2	0.271684	0.035403	NA	NA	0.297302	0.017098	0.029157
SPRY3	0.008432	0.012604	0.001365	0.045286	0.004518	0.006087	0.015843
SPRY4	0.020334	0.002981	NA	NA	0.018581	0.001861	0.000821
TGFa	0.118257	0.120742	NA	NA	0.034915	0.027776	0.087172
TNC	0.01541	0.737135	NA	NA	0.146604	0.020617	0.00613
VIM	69.551	5.54044	0.091157	0.065954	44.3235	2.39496	0.463294

Supplementary Table S3 (continued)

Gene	MSTO-211H	NCI-H1581	NCI-H1703	NCI-H2126	NCI-H226	NCI-H358	NCI-H441
AREG	0.0017	0.000868	1.87E-05	0.064704	0.013048	5.73582	2.44528
CA12	0.084788	0.084202	0.000012	0.003645	0.015734	0	0
CDH1	0.009618	0.073302	0.000772	1.81504	0.042986	12.7286	9.84916
DKK3	4.11246	0.127626	0.094732	0.000255	0.161544	0	3.71E-05
DUSP4	0.000309	0.000219	0.0007	0.045123	0.003496	0.040386	0.013508
DUSP5	0.186856	0.02797	0.02977	0.02836	0.174343	0.223756	0.190782
DUSP6	0.255253	1.47427	0.149685	0.062935	0.063813	4.34694	2.86791
EGF	0.003595	0.000997	0.00011	0.000542	0.00982	0.07966	0.049721
EGFR	1.56917	0.108819	0.34151	0.460094	3.05252	0.628507	0.895025
ELK3	0.473029	0.214641	0.376312	0.063813	0.435275	0.463294	0.329877
ELK4	3.97E-05	3.55E-05	0.000788	2.85E-05	4.44E-05	2.64E-05	0.00181
ERBB2	0.189465	0.368567	0.246558	0.20733	0.156041	0.641713	0.482968
ERBB3	0.011125	0.208772	0.00942	0.099442	0.073812	0.721965	0.447513
EREG	0	0.000157	1.41E-05	2.93E-05	0.000145	0.907519	1.18099
ETV4	0.063813	0.408951	0.466516	0.019641	0.166086	0.230047	0.148651
ETV5	0.15932	0.271684	0.907519	0.03125	0.293209	0.183011	0.20733
FGF1	0.007813	0.00564	0.002668	0.000158	0.016289	0.0819	0.006849
FGF10	0.000194	0.000546	9.58E-05	1.35E-05	0.000343	7.31E-05	3.58E-05
FGF11	0.022876	0.301452	0.001543	0.00282	0.005486	0.042394	0.019641
FGF16	0.002079	0.000523	7.46E-05	0.000239	0.002372	0.00029	0.001099
FGF17	4.32E-05	0.00879	0.001887	0.000117	0.001091	0.002307	1.46E-05
FGF18	0.005373	0.119908	0.005154	0.000549	0.619854	0.000686	0.000816
FGF19	9.25E-05	0.01038	2.25E-05	5.7E-06	3.63E-05	0.000804	0
FGF2	3.07375	0.528509	0.069348	7.26E-05	2.12874	0.000273	4.63E-05
FGF20	0.008432	0.121582	0.000174	0	0	0.000478	3.36E-05
FGF21	0	2.01E-05	6.28E-05	0.000003	7.94E-05	0	9.9E-06
FGF22	0.004158	0.009685	0.003173	0.00162	0.014082	0.00292	0.004843
FGF3	0	0.000109	0	1.12E-05	6.28E-05	3.48E-05	0
FGF4	0	0	0	0	0	0	0
FGF5	0.939523	0.00181	0.514057	0	0.148651	0.002595	0
FGF6	0	1.11E-05	2.68E-05	4.1E-06	3.03E-05	0	0
FGF7	0.013322	0.001609	0.000378	2.87E-05	4.11E-05	0.000112	2.08E-05
FGF8	0.000472	0.10083	0.000495	1.39E-05	0.000193	0.000397	0.000695
FGF9	0.002008	0.001253	0.000146	0.000234	0.028164	0.070316	0.010599
FGFBP1	0.111105	0.000782	2.77E-05	0.007239	0.469761	2.88786	0.607097
FGFBP2	0.000109	0.000478	4.03E-05	0.002743	0.000318	0.00128	0.000296

Supplementary Table S3 (continued)

Gene	MSTO-211H	NCI-H1581	NCI-H1703	NCI-H2126	NCI-H226	NCI-H358	NCI-H441
FGFBP3	0.004187	3.20428	0.001797	0.000597	0.00012	0.002405	0.001773
FGFR1	3.75809	2.05623	1.76541	0.146604	3.70635	0.607097	0.397768
FGFR1b	0.000593	5.54E-05	0.000228	0.000589	0.00141	0.000362	0.001654
FGFR1c	1.33793	1.17283	0.521233	0.011842	1.12506	0.045437	0.048027
FGFR2	0.002152	4.85678	0.02936	0.00071	0.023196	0.033726	0.001861
FGFR2b	0.000644	0.303549	0.001773	0.000277	0.009355	0.020054	0.001106
FGFR2c	0.000345	3.78423	0.008974	4.35E-05	0.006302	0.000531	0.000173
FGFR3	0.008315	0.043586	0.277392	0.051119	0.086569	0.156041	0.00367
FGFR3b	7.57E-05	0.001835	0.01278	0.00849	0.005719	0.009889	2.23E-05
FGFR3c	0.00088	0.006615	0.035403	0.000026	0.003377	0.000443	0
FGFR4	0.001343	0.004645	0.010309	0.005048	0.001642	0.004581	0.004334
FLRT1	0.004044	0.029564	0.036906	0.027017	0.002743	0.016863	0.033961
FLRT2	0.028164	0.008729	0.41466	0.013048	0.11908	0.118257	0.077482
FLRT3	2.77E-05	0.002559	0.001114	0.190782	0.001665	0.005226	0.005563
HGF	6.59E-05	0.005524	2.44E-05	0.00013	0	0	0
IGF1	0	0.006801	9.71E-05	0.000005	3.97E-05	0.030186	0.008729
IGF1R	0.275476	0.965936	0.021793	0.179244	0.840896	0.737135	0.211686
IGF2	2.36199	0.047366	0.005448	0.048361	0.023357	0.214641	3.94E-05
KDR	0.001253	0.004044	4.03E-05	8.63E-05	0.036398	0.5	0.271684
MET	1.75321	0.017337	0.128514	0.173139	2.53151	0.558644	4.82323
MMP1	0.035403	0.022718	0.307786	0.002542	0.058315	0.503478	0.001797
MMP2	3.11666	0.004809	0.003906	0.001099	0.078563	0	0
NCAM1	0.002524	0.000174	5.13E-05	0.000413	0.000856	0.000264	0.000169
PDGFRa	0.005962	0.486327	6.45313	0.000142	0.001926	0.001253	6.73E-05
PDGFRb	0.392292	0.178006	0.000627	0	0.267943	0.004518	0.001654
PLAU	1.6358	0.641713	0.00471	0.054788	0.021793	1.43396	3.53081
PLAUR	0.646176	0.11908	0.143587	0.447513	2.23457	0.773782	0.732043
SERPINE1	37.7918	0.275476	1.07923	0.06983	18.1261	0.316439	0.554785
SOX9	0.417544	0.450625	0.006087	0.214641	0.124137	1.45397	0.103665
SPRY1	0.012344	0.50698	0.185565	0.010525	0.00879	0.119908	0.0625
SPRY2	0.044502	0.030186	0.021642	0.062068	0.019641	0.186856	0.161544
SPRY3	0.001522	0.007289	0.01278	0.004016	0.003472	0.00296	0.001797
SPRY4	0.002323	0.009291	0.015093	0.000288	0.001091	0.004843	0.00471
TGFa	0.001161	0.008088	0.000581	0.01937	0.010097	0.320857	0.521233
TNC	0.02352	0.003262	3.76E-05	0.007546	0.100134	2.14355	1.07923
VIM	78.249	21.8566	32.6724	0.110338	19.8353	5.38893	0.479632

Supplementary Table S3 (continued)

Gene	NCI-H460	NCI-H520	NCI-H522	U-118	U-251	U-87	Y79
AREG	0.052556	0.05329	0.111878	0.000605	0.000065	4.3E-06	9.9E-06
CA12	0.082469	0.003906	0.010237	0.659754	0.087172	1.02811	0.358489
CDH1	0.004809	0.111105	0.005839	6.02E-05	0.007867	0.000181	0.000121
DKK3	0.017824	0.091505	0.017098	5.20537	1.51572	0.089003	0.00026
DUSP4	0.059129	0.002668	3.73E-05	0.000343	0.005448	0.01468	0.001785
DUSP5	0.032129	0.013697	0.016863	0.021642	0.094732	0.06164	0.046391
DUSP6	0.30566	1.49485	0.946058	0.273573	0.63728	0.476319	0.001491
EGF	0.07966	0.01176	5.35E-05	0.014885	0.15822	0.005083	2.14E-05
EGFR	0.11344	0.017948	0.473029	0.673617	0.993092	0.48971	0
ELK3	0.055169	0.006302	0.096055	0.368567	0.25349	0.084788	0.008669
ELK4	7.62E-05	7.41E-05	0	1.49E-05	4.89E-05	0.000129	4.1E-06
ERBB2	0.04181	0.049378	0.348686	0.169575	0.111878	0.005013	0.005962
ERBB3	0.001773	0.018841	0.011518	0.002275	0.019641	0.000416	0.001913
EREG	0.01698	3.03E-05	0.089622	0.034435	0.004216	0.395021	1.44E-05
ETV4	0.5	0.312083	0.266093	0.003424	0.085971	0.026278	0.00015
ETV5	0.133972	0.858565	0.056328	0.156041	1.09429	0.271684	0.003065
FGF1	0.000192	0.002137	0.001511	0.035649	0.120742	NA	0.000388
FGF10	3.55E-05	0.000233	0.02683	0.000236	0.000482	NA	0
FGF11	0.007289	0.010672	0.072796	0.00176	0.025033	0.003401	0.005759
FGF16	0.001554	0.00176	0.000383	0.000163	0.000225	NA	0.000112
FGF17	0.000176	0.006615	0.000288	4.14E-05	0.002421	NA	0.000681
FGF18	0.001665	0.055939	0.002065	0.039282	0.014378	NA	0.004487
FGF19	8.22E-05	0.447513	2.79E-05	0	0.000167	NA	0.000231
FGF2	0.162668	0.125	1.02101	0.325336	0.456916	NA	0.021493
FGF20	0	0.070805	0.000892	0.000104	0.001362	NA	1.27E-05
FGF21	5.28E-05	0.002022	0	6.28E-05	0.00012	NA	0.00002
FGF22	0.001913	0.028164	0.005719	0.001848	0.006708	NA	0.018073
FGF3	0	3.29436	9.6E-06	0	0	NA	7.2E-06
FGF4	0	0.000147	0	0	0	NA	0
FGF5	0	0.00052	0.000042	0.230047	0.032577	NA	5.7E-06
FGF6	4.5E-06	4.32E-05	0	4.4E-06	1.81E-05	NA	6.9E-06
FGF7	0.00143	0.001106	3.07E-05	0.00294	0.001554	NA	7.5E-06
FGF8	0.000148	0.002197	0.001236	8.94E-05	0	NA	0.006172
FGF9	0.001106	0.217638	0.03983	0.000886	0.001289	NA	0.000341
FGFBP1	0.000943	0.02352	6.32E-05	0.000113	0.000475	7.78E-05	0.000019
FGFBP2	0.002307	0.000943	0.000977	0.001271	0.002079	0.000502	0.000411

Supplementary Table S3 (continued)

Gene	NCI-H460	NCI-H520	NCI-H522	U-118	U-251	U-87	Y79
FGFBP3	0.017824	0.008549	0.00982	0.00639	0.007239	0.005263	0.00128
FGFR1	0.101531	7.46426	4.16986	1.25701	1.81504	NA	0.10083
FGFR1b	1.47E-05	0.11744	0.000217	0.000104	0.000527	NA	1.02E-05
FGFR1c	0.020054	2.17347	3.83706	0.952638	0.231647	NA	0.032804
FGFR2	0.001631	0.006003	0.004129	0.00088	0.082469	NA	0.044502
FGFR2b	7.57E-05	0.001848	0.000462	0.000103	0.007189	NA	0.004876
FGFR2c	0.000402	0.000109	0.003853	0.000488	0.023036	NA	0.016516
FGFR3	0.004016	0.291183	0.01937	0.002291	0.373712	NA	0.029977
FGFR3b	5.35E-05	0.049378	0.00044	1.12E-05	0.010672	NA	0.000756
FGFR3c	0.000136	0.000299	0.002981	1.55E-05	0.021051	NA	0.000899
FGFR4	0.000715	0.007041	0.001047	7.16E-05	0.001748	NA	0.006003
FLRT1	0.0625	0.020475	0.012517	0.001848	0.016747	0.006434	0.015625
FLRT2	0.395021	0.001381	0.006944	0.329877	0.033262	0.084788	0.007239
FLRT3	0.000618	0.00074	0.00072	0.000108	0	0.002108	0.000223
HGF	2.87E-05	0.007391	0.011679	1.19748	0.000411	1.32869	2.01E-05
IGF1	0	5.02805	0.001689	0.070805	0.015303	0.00471	0.000226
IGF1R	0.368567	0.028956	1.34723	0.041521	0.668964	0.052193	0.142595
IGF2	0.008258	0.00357	0.05872	0.097396	0.000459	0.000197	0.035649
KDR	0.007705	0.001145	0.000196	0.001228	0.003308	0.000108	0.00004
MET	0.262429	0.066064	0.089622	1.3566	0.366021	0.697372	0.00088
MMP1	0.00639	0.000125	0.033493	0.104386	0.003906	0.049378	5.4E-06
MMP2	0.006708	0.139661	0.003545	5.61778	2.37841	10.9283	0.001289
NCAM1	0.022251	0.02836	8.7E-06	0.000446	0.125	0.004016	0.030186
PDGFRa	0	0.001325	0.005759	1.07177	0.650671	0.120742	0.000121
PDGFRb	0.021945	0.00148	0.002152	3.50642	0	1.28343	0.000338
PLAU	0.011598	0.000226	0.021493	1.46409	0.933033	2.56685	8.57E-05
PLAUR	0.098755	0.022718	0.003826	0.190782	0.939523	0.933033	0.041235
SERPINE1	0.044811	0.010027	0.003002	1.54756	3.53081	2.2974	2.46E-05
SOX9	0.535887	0.496546	0.02797	0.119908	3.34035	0.30566	0.000983
SPRY1	0.010097	0.001532	0.334482	0.070316	0.092783	0.003496	0.019505
SPRY2	0.028956	0.115024	0.008851	0.092783	0.432269	0.351111	0.017458
SPRY3	0.046391	0.015517	0.001785	0.001598	0.009291	0.007813	0.004425
SPRY4	0.00181	0.007239	0.002668	0.002065	0.002879	0.002197	0.00012
TGFa	0.001665	0.099442	0.021793	0.002259	0.266093	0.024689	0.000296
TNC	0	0.000531	0.001609	2.62079	2.32947	4.02782	0.000341
VIM	13.0864	2.71321	5.1337	31.3414	48.1679	22.4711	0.790041

Supplementary Table S4. Statistical analysis of FGF-related gene expression in relation to FP-1039 antitumor response in xenograft models.

Gene	Ratio[§]	P value[†]
<i>ETV4</i>	2.897	0.01639
<i>FGFR1</i>	2.447	0.01669
<i>FGFR3c</i>	9.863	0.01944
<i>FGF18</i>	6.915	0.02227
<i>FGF2</i>	247.7	0.03569
<i>FGFR1c</i>	3.647	0.0431
<i>DUSP4</i>	0.09578	0.08166
<i>TNC</i>	0.0345	0.1212
<i>VIM</i>	5.155	0.1448
<i>ETV5</i>	1.447	0.1567
<i>FGFBP3</i>	1.84	0.1592
<i>PLAU</i>	0.3842	0.1781
<i>PLAUR</i>	0.3805	0.2408
<i>FGF7</i>	1.991	0.243
<i>FGF5</i>	24.79	0.2691
<i>KDR</i>	0.5892	0.2742
<i>FGF11</i>	2.153	0.2944
<i>MET</i>	0.4225	0.2962
<i>FGF2</i>	5.48	0.3015
<i>DUSP5</i>	0.4765	0.3238
<i>FGF22</i>	1.604	0.3484
<i>FGF10</i>	1.91	0.3518
<i>FGFR2</i>	1.402	0.3587
<i>FGF1</i>	0.09845	0.398
<i>FGFR2c</i>	5.546	0.4195
<i>FGF17</i>	1.334	0.4361
<i>FGFR3b</i>	1.08	0.451
<i>FGF20</i>	5.967	0.4729
<i>FGFR1b</i>	0.6493	0.486
<i>SPRY3</i>	1.665	0.4944
<i>SPRY1</i>	1.394	0.5008
<i>DUSP6</i>	0.6418	0.507
<i>FGF19</i>	1.203	0.5338
<i>FLRT1</i>	1.158	0.5676
<i>FGF3</i>	1.431	0.5699
<i>FGFR4</i>	1.347	0.5755
<i>FGF9</i>	0.5356	0.6102

<i>FGFR3</i>	1.767	0.6165
<i>SPRY2</i>	0.3142	0.6313
<i>SERPINE1</i>	0.333	0.6642
<i>FGF21</i>	1.935	0.6744
<i>FLRT2</i>	0.2276	0.693
<i>FGFR2b</i>	0.9266	0.7897
<i>FGF6</i>	0	0.8316
<i>FGFBP1</i>	0.5	0.8372
<i>SOX9</i>	1.181	0.8372
<i>SPRY4</i>	0.9028	0.8372
<i>NCAM1</i>	1.661	0.8731
<i>FGF8</i>	1.052	0.9552
<i>ELK4</i>	1.062	0.9815
<i>CDH1</i>	0.1158	0.9818
<i>ELK3</i>	1.157	0.9818
<i>FGFBP2</i>	0.7737	0.9818
<i>FGF16</i>	1.076	1
<i>FLRT3</i>	0.7523	1

[§]Gene expression ratio determined by median gene expression in FP-1039 responders / non-responders

[†]*P*-values are determined by a Mann-Whitney test of PCR gene expression in responders vs. non-responders for each gene using all models in table S1

Supplementary Table S5. Statistical analysis of FGF-related gene expression in relation to FP-1039 antitumor response in non-*FGFR1*-amplified lung xenograft models.

Gene	Ratio[§]	P value[†]
<i>FGF2</i>	3437	0.02857
<i>SPRY2</i>	0.1395	0.05714
<i>FGFR3c</i>	3.765	0.1375
<i>DUSP5</i>	0.3241	0.2
<i>FGFR1c</i>	3.688	0.2343
<i>FGF21</i>	6.868	0.2454
<i>FGFR2</i>	8.793	0.2949
<i>FGFR1</i>	3.72	0.2949
<i>FGF19</i>	20.79	0.3094
<i>FGFR1b</i>	0.553	0.3429
<i>ELK3</i>	0.5091	0.3429
<i>SPRY4</i>	0.3532	0.3429
<i>FGFBP1</i>	0.1836	0.3429
<i>DUSP6</i>	0.1254	0.3429
<i>DKK3</i>	46.5	0.366
<i>FGF18</i>	2.455	0.366
<i>FGF22</i>	1.373	0.3836
<i>FGF2</i>	30.92	0.4452
<i>VIM</i>	4.122	0.4452
<i>ETV4</i>	1.665	0.4452
<i>FGFBP3</i>	4.424	0.4857
<i>SOX9</i>	0.3956	0.4857
<i>SERPINE1</i>	0.3155	0.4857
<i>SPRY1</i>	0.1799	0.4857
<i>FGF8</i>	0.3268	0.5338
<i>FGF20</i>	0.4803	0.6573
<i>ELK4</i>	1.019	0.6857
<i>FGFBP2</i>	0.6526	0.6857
<i>FLRT3</i>	0.2211	0.6857
<i>FGF11</i>	2.039	0.7308
<i>FGF5</i>	44.05	0.8294
<i>FGFR2c</i>	2.029	0.8357
<i>FGF1</i>	1.45	0.8357
<i>FGFR3</i>	1.285	0.8357
<i>FGFR4</i>	0.8265	0.8357
<i>FGF10</i>	0.4615	0.8357
<i>FGF17</i>	0.4268	0.8357

<i>ETV5</i>	0.8563	0.8857
<i>FLRT2</i>	0.828	0.8857
<i>FLRT1</i>	0.8212	0.8857
<i>PLAUR</i>	0.716	0.8857
<i>FGFR3b</i>	0.7137	0.8857
<i>FGFR2b</i>	0.5752	0.8857
<i>FGF16</i>	1.786	0.9452
<i>SPRY3</i>	1.051	0.9452
<i>FGF9</i>	2.07	1
<i>NCAM1</i>	1.391	1
<i>DUSP4</i>	0.9031	1
<i>FGF3</i>	0.8571	1
<i>FGF7</i>	0.738	1

[§]Gene expression ratio determined by median gene expression in FP-1039 responders /median gene expression in non-responders

[†]*P*-values are determined by a Mann-Whitney test of PCR gene expression in responders vs. non-responders for each gene using the non-FGFR1 amplified lung models in table S1

Supplementary Table S6. Spearman correlation of gene expression markers predictive of FP-1039 efficacy in xenograft models

Gene 1	Gene 2	Correlation	<i>P</i> -value [§]
<i>FGF18</i>	<i>FGFR1</i>	0.47	0.0083
<i>FGF18</i>	<i>FGFR1c</i>	0.57	0.0008
<i>FGF2</i>	<i>FGFR3c</i>	0.49	0.0139
<i>FGFR1</i>	<i>FGFR3c</i>	0.41	0.0244
<i>FGF2</i>	<i>FGFR1c</i>	0.43	0.0336
<i>FGF2</i>	<i>FGFR1</i>	0.39	0.0447

[§]2-sided p-values approximated with a Monte Carlo simulation