Figure 4. Fold change between LCM and TL based on the amount of tumor present in the specimen after normalization of each TL to the matched LCM sample. For each group, mean and SEM are shown.

Figure 5. Unsupervised hierarchical clustering analysis of laser capture microdissected lung adenocarcinomas (LCM=green) matched whole undissected tissues (TL=blue) and LCM of the entire section (LCM-TL=red).

Table 1. List of FDA approved compounds as well as a selected number currently under investigation for the treatment of NSCLC.

Supplementary table 1. List of antibodies, vendors, and catalogue numbers used in the study.

Supplementary table 2. Range of the intensity values for the 15 matched LCM and TL samples included in the study.

Supplementary figure 1. Representation of LCM process. Panel A shows a direct visualization of the Hematoxylin stained slide before LCM is performed. Panel B presents the Macro cap with the captured cells. Panel C shows the left over tissue after LCM is completed.

Supplementary figure 2. Pair-wise comparison of LCM and matched TL samplesbased on the raw data values.

Supplementary Table 1

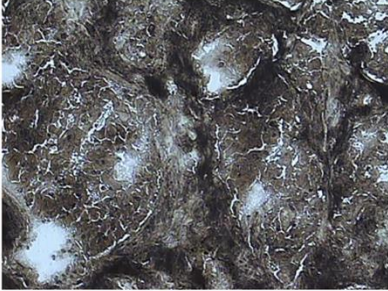| Catalog Number	Antibody	Company
9271	Akt (S473)	Cell Signaling
3633	ALK (D5F3)	Cell Signaling
3348	ALK (Y1586)	Cell Signaling
3341	ALK (Y1604)	Cell Signaling
2232	EGFR	Cell Signaling
2234	EGFR (Y1068)	Cell Signaling
44-792	EGFR (Y1148)	BioSource
44-794	EGFR (Y1173)	BioSource
2235	EGFR (Y992)	Cell Signaling
2242	ErbB2/HER2	Cell Signaling
IMG-90189	ErbB2/HER2 (Y1248)	Imgenex
9101	ERK 1/2 (T202/Y204)	Cell Signaling
3488	HSP90a (T5/7)	Cell Signaling
3021	IGF-1R (Y1131)/IR(Y1146)	Cell Signaling
9128	MEK1 (S298)	Cell Signaling
9121	MEK1/2 (S217/221)	Cell Signaling
3126	Met (Y1234/1235)	Cell Signaling
2972	mTOR	Cell Signaling
2971	mTOR (S2448)	Cell Signaling
07-021	PDGF Receptor beta (Y716)	Upstate
3161	PDGF Receptor beta (Y751)	Cell Signaling
3221	Ret (Y905)	Cell Signaling
5176-1	Ron (Y1353)	Epitomics
2471	VEGFR 2 (Y951)	Cell Signaling
2474	VEGFR 2 (Y996)	Cell Signaling
2478	VEGFR 2 (Y1175)	Cell Signaling

Supplementary Table 2

Endpoints	LCM	TL	Number of matched pairs analyzed
Akt S473	323.44 – 14853.64	2073.51 – 36680.48	15
ALK Total	7600.73 -15521.78	11248.61 - 30333.24	15
ALK Y1586	34200.63 - 55826.29	25084.36 - 60475.9	15
ALK Y1604	8374.94 - 18939.4	6093.63 - 15537.31	15
EGFR Total	10006.6 - 99707.9	10742.89 - 58104.6	15
EGFR Y1068	0* - 48533.03	1570.26 - 28001.11	15
EGFR Y1148	25084.36 - 63576.57	28853.9 - 51021.38	15
EGFR Y1173	13003.83 - 50513.7	15168.85 - 40945.61	15
EGFR Y992	8751.66 - 26635.48	5074.58 - 17783.03	15
ErbB2/HER2 Total	8030.48 - 55270.8	6136.44 - 44355.84	14
ErbB2/Her2 Y1248	8391.71 - 40945.61	10948.95 - 37797.56	15
ERK1/2 T202/Y204	941.05 - 106937.51	6204.3-88432.98	15
HSP90a T5/7	18178.58 - 108012.27	6266.66 - 61083.7	13
IGF-1R Y1131/IR Y1146	0** - 10218.96	1679.07 - 11271.13	15
MEK 1/2 S217/221	6808.99 - 69563.8	16058.6 - 64215.48	15
MEK1 S298	19206.42 - 38948.66	5125.58 - 22471.44	15
Met Y1234/1235	10732.16 - 22697.26	10981.85 - 29143.86	15
mTOR Total	10414.97 - 26635.48	14100.98 - 43044.94	15
mTOR S2448	5825.49 - 22471.44	11626 - 103777.05	15
PDGF Receptor beta Y716	13480.5 - 91126.14	13333.03 - 52575.2	15
PDGF Receptor beta Y751	6285.49 - 19970.27	16333.93 - 56954.03	15
Ret Y905	5990.91 - 15803.71	8866.18 - 21418.28	15
Ron Y1353	7405.65 - 14129.21	6483.4 - 20723.01	15
VEGFR2 Y951	0** - 8955.29	1992.21 - 11579.6	15
VEGFR2 Y996	10107.16 - 20292.36	13629.61 - 50513.7	15
VEGFR2 Y1175	7037.44 - 26903.18	7143.79 - 20681.61	13

*Intensity value was below limit detection for 3 patients
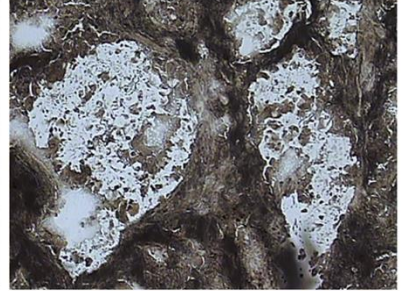
** Intensity value was below limit detection for 1 patient

Supplementary Figure 1

A)

B)

C)

Supplementary Figure 2