

Table S1 Patient characteristics of NSCLC patients in the Uppsala I cohort (surgically resected between 1995–2005)

Characteristics	Uppsala I				
	Affymerix Gene expression, n (%)	FISH, n (%)	Clone D4D6, n (%)	Clone SP384, n (%)	Clone EPMGHR2, n (%)
All cases	187 (100.0)	313 (100.0)	342 (100.0)	333 (100.0)	302 (100.0)
Sex					
Male	101 (54.0)	166 (53)	181 (52.9)	177 (53.2)	164 (54.3)
Female	86 (46.0)	147 (47)	161 (47.1)	156 (46.8)	138 (45.7)
Age at diagnosis					
≤70 years	145 (77.5)	218 (69.6)	236 (69.0)	230 (69.1)	210 (69.5)
>70 years	42 (22.5)	95 (30.4)	106 (31.0)	103 (30.9)	92 (30.5)
Smoking history					
Current smoker	94 (50.3)	150 (47.9)	159 (46.5)	156 (46.8)	142 (47.0)
Former smoker	79 (42.2)	136 (43.5)	149 (43.6)	146 (43.8)	132 (43.7)
Never smoker	14 (7.5)	25 (8.0)	32 (9.4)	29 (8.7)	26 (8.6)
Missing	0 (0)	2 (0.6)	2 (0.6)	2 (0.6)	2 (0.6)
TNM-stage at diagnosis (8th edition)					
IA1	1 (0.5)	1 (0.3)	1 (0.3)	1 (0.3)	1 (0.3)
IA2	12 (6.4)	26 (8.3)	27 (7.9)	25 (7.5)	25 (8.3)
IA3	23 (12.3)	45 (14.4)	49 (14.3)	49 (14.7)	42 (13.9)
IB	27 (14.4)	52 (16.6)	57 (16.7)	57 (17.1)	54 (17.9)
IIA	16 (8.6)	20 (6.4)	23 (6.7)	20 (6.0)	18 (6.0)
IIB	57 (30.5)	84 (26.8)	92 (26.9)	91 (27.3)	80 (26.5)
IIIA	38 (20.3)	68 (21.7)	73 (21.3)	71 (21.3)	66 (21.9)
IIIB	11 (5.9)	12 (3.8)	16 (4.7)	15 (4.5)	13 (4.3)
IIIC	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
IVA	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
IVB	2 (1.1)	5 (1.6)	4 (1.2)	4 (1.2)	3 (1.0)
Histology					
Adenocarcinoma	101 (54.0)	169 (54.0)	190 (55.6)	182 (54.7)	165 (54.6)
Squamous cell carcinoma	62 (33.2)	109 (34.8)	115 (33.6)	114 (34.2)	107 (35.4)
Large cell carcinoma	24 (12.8)	35 (11.2)	37 (10.8)	37 (11.1)	30 (9.9)
WHO performance status					
0	100 (53.5)	163 (52.1)	180 (52.6)	175 (52.6)	160 (53)
1	71 (38.0)	120 (38.3)	129 (37.7)	126 (37.8)	113 (37.4)
2	12 (6.4)	24 (7.7)	27 (7.9)	26 (7.8)	24 (7.9)
3	4 (2.1)	5 (1.6)	5 (1.5)	5 (1.5)	4 (1.3)
4	0 (0.0)	1 (0.3)	1 (0.3)	1 (0.3)	1 (0.3)
Mean follow-up (months)	61.3	61.9	61.6	60.7	61.5

NSCLC, non-small cell lung cancer; TNM, tumor (T), nodes (N), and metastases (M); FISH, fluorescence in situ hybridization.

Table S2 Patient characteristics of NSCLC patients in the Uppsala II cohort (surgically resected between 2006-2010).

Characteristics	Uppsala II				
	RNAseq Gene expression, n (%)	FISH, n (%)	Clone D4D6, n (%)	Clone SP384, n (%)	Clone EPMGHR2, n (%)
All cases	182 (100.0)	317 (100.0)	323 (100.0)	306 (100.0)	291 (100.0)
Sex					
Male	88 (48.4)	159 (50.2)	161 (49.8)	155 (50.7)	144 (49.5)
Female	94 (51.6)	158 (49.8)	162 (50.2)	151 (49.3)	147 (50.5)
Age at diagnosis					
≤70 years	107 (58.8)	203 (64.0)	207 (64.1)	194 (63.4)	186 (63.9)
>70 years	75 (41.2)	114 (36.0)	116 (35.9)	112 (36.6)	105 (36.1)
Smoking History					
Current smoker	87 (47.8)	164 (51.7)	165 (51.1)	156 (51.0)	152 (52.2)
Former smoker	78 (42.9)	119 (37.5)	123 (38.1)	117 (38.2)	106 (36.4)
Never smoker	17 (9.3)	34 (10.7)	35 (10.8)	33 (10.8)	33 (11.3)
Missing	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
TNM-stage at diagnosis (8th edition)					
IA1	0 (0.0)	12 (3.8)	12 (3.7)	11 (3.6)	10 (3.4)
IA2	38 (20.9)	67 (21.1)	69 (21.4)	64 (20.9)	60 (20.6)
IA3	35 (19.2)	75 (23.7)	75 (23.2)	70 (22.9)	68 (23.4)
IB	22 (12.1)	33 (10.4)	34 (10.5)	34 (11.1)	33 (11.3)
IIA	14 (7.7)	20 (6.3)	20 (6.2)	20 (6.5)	20 (6.9)
IIB	30 (16.5)	45 (14.2)	45 (13.9)	43 (14.1)	39 (13.4)
IIIA	37 (20.3)	50 (15.8)	52 (16.1)	49 (16.0)	47 (16.2)
IIIB	6 (3.3)	11 (3.5)	11 (3.4)	10 (3.3)	9 (3.1)
IIIC	0 (0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
IVA	0 (0)	4 (1.3)	5 (1.5)	5 (1.6)	5 (1.7)
IVB	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Histology					
Adenocarcinoma	108 (59.3)	200 (63.1)	206 (63.8)	192 (62.7)	180 (61.9)
Squamous cell carcinoma	61 (33.5)	96 (30.3)	96 (29.7)	93 (30.4)	90 (30.9)
Large cell carcinoma	4 (2.2)	5 (1.6)	5 (1.5)	5 (1.6)	5 (1.7)
Adenosquamous carcinoma	3 (1.6)	5 (1.6)	5 (1.5)	5 (1.6)	5 (1.7)
Sarcomatoid carcinoma	1 (0.5)	2 (0.6)	2 (0.6)	2 (0.7)	2 (0.7)
Large cell neuroendocrine carcinoma	5 (2.7)	9 (2.8)	9 (2.8)	9 (2.9)	9 (3.1)
WHO performance status					
0	114 (62.6)	198 (62.5)	202 (62.5)	192 (62.7)	182 (62.5)
1	66 (36.3)	116 (36.6)	118 (36.5)	111 (36.3)	106 (36.4)
2	2 (1.1)	3 (0.9)	3 (0.9)	3 (1.0)	3 (1.0)
3	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
4	0 (0.0)	0 (0)	0 (0)	0 (0)	0 (0.0)
Mean follow-up (months)	72.2	70	70.1	70.3	70

NSCLC, non-small cell lung cancer; TNM, tumor (T), nodes (N), and metastases (M); FISH, fluorescence in situ hybridization.

Table S3 Targeted NanoString digital counting was performed using a custom-designed fusion gene assay, based on Lira et al. (2014), with additional probes for ROS proto-oncogene 1 (ROS1)

Assay type	Probe name	Accession	Position	Target sequence
3'/5'	ROS1_5'-1	NM_002944.2	501-600	TACCAACTGCTCCCTTTGCTTCTTCCATTGGAAGCCAC AATATGACATTACGATGGAAATCTGCAAACCTCTCTGGA GTAAAATACATCATTCAAGTGGAA
3'/5'	ROS1_5'-2	NM_002944.2	2917-3016	TCAAGAAATAGGTCAGAAAACCAAGTGTCTCTGTTTTGG AACCAGCCAGATTTAATCAGTTCACAATTATTCAGACATC CCTTAAGCCCCTGCCAGGGAAC
3'/5'	ROS1_5'-3	NM_002944.2	3907-4006	GCACCTCTACTTTGCACTGAAAGAATCACAAAATGGAAT GCAAGTATTTGATGTTGATCTTGAACACAAGGTGAAATAT CCCAGAGAGGTGAAGATTCAC
3'/5'	ROS1_5'-4	NM_002944.2	5019-5118	CTCTAAGACAAAGTGAATTTCCAAATGGAAGGCTCACT CTCCTTGTTACTAGACTGTCTGGTGGAAATATTTATGTGT TAAAGGTTCTTGCCTGCCACTC
3'/5'	ROS1_3'-1	NM_002944.2	6166-6265	GGAGAAGATTGAATTCCTGAAGGAGGCACATCTGATGA GCAAAATTAATCATCCCAACATTCTGAAGCAGCTTGGAG TTTGTCTGCTGAATGAACCCCAA
3'/5'	ROS1_3'-2	NM_002944.2	6363-6462	ACCTTGTAGACCTGTGTGTAGATATTTCAAAGGCTGTG TCTACTTGGAACGGATGCATTTCAATCACAGGGATCTGG CAGCTAGAAATTGCCTTGTTTC
3'/5'	ROS1_3'-3	NM_002944.2	6750-6849	GAAATTGTCCTGATGATCTGTGGAATTTAATGACCCAGT GCTGGGCTCAAGAACCCGACCAAGACCTACTTTTTCAT AGAATTCAGGACCAACTTCAGTT
3'/5'	ROS1_3'-4	NM_002944.2	7262-7361	AGAGAGTTGAGATAAACACTCTCATTCACTAGTTACTGA AAGAAAACCTCTGCTAGAATGATAAATGTCATGGTGGTCT ATAACTCCAAATAAACAAATGCA
Specific fusion	SLC34A2-ROS1_ S4:R32	-	SLC34A2-ROS1_ S4:R32	TTTCGTGTGCTCCCTGGATATTCTTAGTAGCGCCTTCCA GCTGGTTGGAGCTGGAGTCCCAAATAAACAGGCATTC CCAAATTACTAGAAGGGAGTAAA
Specific fusion	CD74-ROS1_C6:R32	-	CD74-ROS1_C6:R32	AATGAGCAGGCACTCCTTGGAGCAAAAGCCCCTGAC GCTCCACCGAAAGCTGGAGTCCCAAATAAACAGGCA TTCCCAAATTACTAGAAGGGAGTAAA
Specific fusion	SDC4-ROS1_S2:R32	-	SDC4-ROS1_S2:R32	GCCCGGGCAGGAATCTGATGACTTTGAGCTGTCTGGC TCTGGAGATCTGGCTGGAGTCCCAAATAAACAGGCAT TCCCAAATTACTAGAAGGGAGTAAA
Specific fusion	SLC34A2-ROS1_ S13del2046:R32	-	SLC34A2-ROS1_ S13del2046:R32	CAAGGCTCCTGAGACCTTTGATAACATAACCATTAGCAG AGAGGCTCAGGCTGGAGTCCCAAATAAACAGGCATT CCCAAATTACTAGAAGGGAGTAAA
Specific fusion	SLC34A2-ROS1_ S4:R34	-	SLC34A2-ROS1_ S4:R34	TTTCGTGTGCTCCCTGGATATTCTTAGTAGCGCCTTCCA GCTGGTTGGAGATGATTTTTGGATACCAGAAACAAGTTT CATACTTACTATTATAGTTGGA
Specific fusion	EZR-ROS1_E10:R34	-	EZR-ROS1_E10:R34	GATGCTGCGGCTGCAGGACTATGAGGAGAAGACAAAG AAGGCAGAGAGAGATGATTTTTGGATACCAGAAACAAG TTTCATACTTACTATTATAGTTGGA
Specific fusion	SDC4-ROS1_S4:R34	-	SDC4-ROS1_S4:R34	CAGCACTGTGCAGGGCAGCAACATCTTTGAGAGAACG GAGGTCCTGGCAGATGATTTTTGGATACCAGAAACAAG TTTCATACTTACTATTATAGTTGGA
Specific fusion	GOPC-ROS1_ G8:R35	-	GOPC-ROS1_ G8:R35	CCCTGGTGCTAGTTGCAAAGACACAAGTGGGGAAATC AAAGTATTACAAGTCTGGCATAGAAGATTAAGAATCAAA AAAGTGCCAAGGAAGGGGTGACA
Specific fusion	TPM3-ROS1_T8:R35	-	TPM3-ROS1_T8:R35	TGCTGAGAGATCGGTAGCCAAGCTGGAAAAGACAATTG ATGACCTGGAAGTCTGGCATAGAAGATTAAGAATCAAA AAAGTGCCAAGGAAGGGGTGACA
Specific fusion	LRIG3-ROS1_ L16:R35	-	LRIG3-ROS1_ L16:R35	TGTCACATCTTCAGGTGCTGGATTTTTCTTACCACAACA TGACAGTAGTGTCTGGCATAGAAGATTAAGAATCAAAA AAGTGCCAAGGAAGGGGTGACA
Specific fusion	GOPC-ROS1_ G4:R36	-	GOPC-ROS1_ G4:R36	TATGGGGCGAGACTAGCTGCCAAGTACTTGGATAAGGA ACTGGCAGGAAGTACTCTTCCAACCCAGAGGAGATT GAAAATCTTCTGCCTTCCCTCGGG
Specific fusion	GOPC-ROS1_ G7:R35	-	GOPC-ROS1_ G7:R35	TATATGGGGCGAGACTAGCTGCCAAGTACTTGGATAAG GAACTGGCAGGATCTGGCATAGAAGATTAAGAATCAAA AAAGTGCCAAGGAAGGGGTGACA
Specific fusion	LRIG3-ROS1_ L16:R35	-	LRIG3-ROS1_ L16:R35	TTTGTACATCTTCAGGTGCTGGATTTTTCTTACCACAA CATGACAGTAGTCTGGCATAGAAGATTAAGAATCAAAA AAGTGCCAAGGAAGGGGTGACA