

Table S1 Detailed pathological data of included patients

Patient no.	Enroll	EGFR	Histology (pre)	ASCL1 H-score (pre)	NEUROD1 H-score (pre)	POU2F3 H-score (pre)	YAP1 H-score (pre)	RB1 (pre)	p53 (pre)	Histology (post)	Combined NSCLC component	ASCL1 H-score (post)	NEUROD1 H-score (post)	POU2F3 H-score (post)	YAP1 H-score (post)	RB1 (post)	p53 (post)	SUBTYPE (post)	TTF-1 (post)	Large cell feature in SCLC
10	Included	E19del	ADC	0	0	0	120	Loss	Overexpression (80%)	SCLC	–	120	6	10	25	Loss	Overexpression (>90%)	A	positive	present
14	Included	E19del	ADC	10	0	10	15	Loss	Overexpression (>90%)	SCLC	–	140	0	0	10	Loss	Overexpression (80%)	A	positive	absent
15	Included	E19del	ADSCC	10	0	10	220	Loss	Complete absence (0%)	SCLC	–	240	30	0	5	Loss	Complete absence (0%)	A	positive	present
26	Included	E19del	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	270	0	30	2	Loss	Overexpression (80%)	A	positive	present
1	Included	L858R	ADC	0	0	0	170	Loss	Overexpression (>90%)	SCLC	–	0	300	0	0	Loss	Overexpression (>90%)	N	positive	absent
3	Included	E19del	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	10	300	0	0	Loss	Wild type (20%)	N	positive	absent
4	Included	E19del	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	5	270	0	0	Loss	Overexpression (>90%)	N	positive	absent
11	Included	E19del	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	30	300	0	0	Intact (100%)	Overexpression (80%)	N	positive	absent
12	Included	L858R	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	30	80	0	0	Intact (100%)	Overexpression (80%)	N	positive	present
13	Included	E19del	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	100	230	0	3	Loss	Complete absence (0%)	N	positive	absent
16	Included	E19del	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	50	260	0	0	Loss	N/A	N	positive	absent
20	Included	E19del	ADC	0	0	0	180	Loss	Complete absence (0%)	SCLC	–	80	180	0	0	Loss	Complete absence (0%)	N	positive	absent
23	Included	L858R	ADC/ SCLC*	0	120**	0	10	Loss	Overexpression (>90%)	SCLC	ADC	0	240	0	0	Loss	Overexpression (>90%)	N	positive	absent
9	Included	L858R	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	0	0	5	0	Intact (50%)	Complete absence (0%)	TN	negative	absent
18	Included	E19del	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	5	0	40	30	Loss	Overexpression (>90%)	TN	positive	present
22	Included	E19del	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	0	0	0	0	Loss	N/A	TN	positive	absent
27	Included	E19del	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	–	0	0	0	0	N/A	Complete absence (0%)	TN	negative	absent
34	Included	Leu858	ADC	N/A	N/A	N/A	N/A	N/A	N/A	SCLC	LCNEC	5	0	30	65	Loss	Complete absence (0%)	TN	positive	present
2	Exploratory Analysis	L858R								SCLC	ADC	140	0	0	7	Intact (50%)	Overexpression (80%)	A	positive	present
37	Exploratory Analysis	E19del/T790M								SCLC	ADC/ LCNEC	120	0	0	0	Intact (100%)	Complete absence (0%)	A	positive	present
39	Exploratory Analysis	L858R								SCLC	LCNEC	120	0	60	0	Loss	Complete absence (0%)	A(SCLC)+AP(LCNEC)	positive	present
25	Exploratory Analysis	L858R								SCLC	ADC	0	250	0	1	Loss	Overexpression (80%)	N	positive	absent
30	Exploratory Analysis	E19del								SCLC	ADC	0	220	10	5	Intact (20%)	Overexpression (70%)	N	positive	absent
40	Exploratory Analysis	E19del								SCLC	ADC	5	300	10	0	Loss	Wild type (30%)	N	positive	present
29	Exploratory Analysis	E19del								SCLC	LCNEC	30	3	50	0	Loss	Complete absence (0%)	TN	positive	present

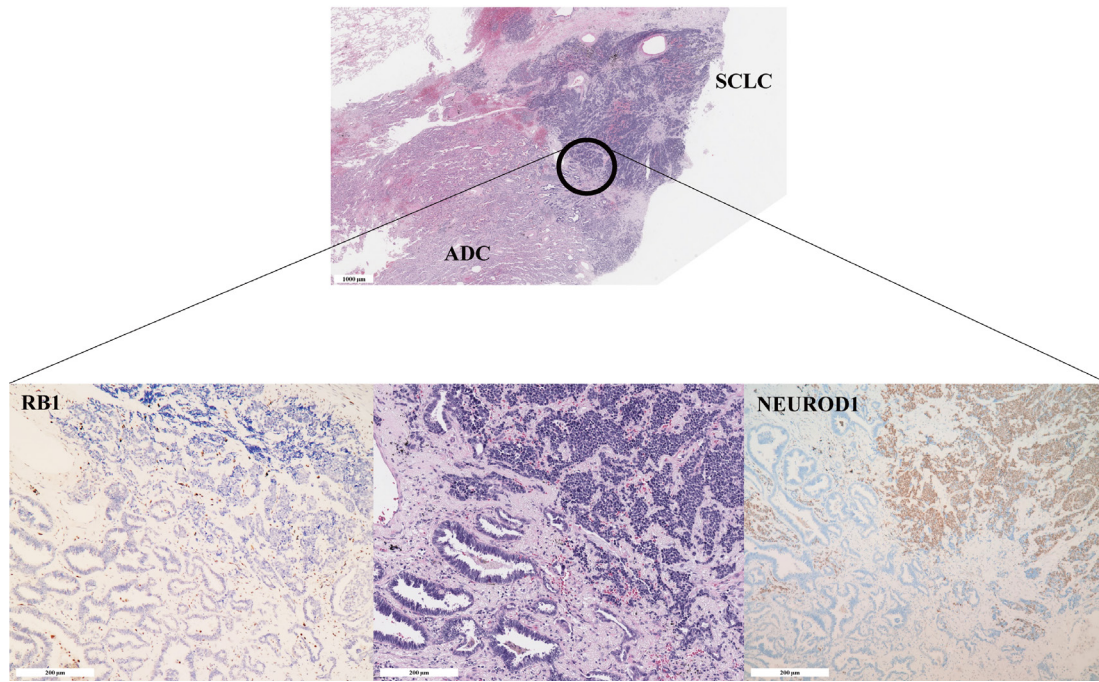


Figure S1 Representative images for *de novo* combined SCLC showing the spatial difference in NEUROD1 and RB1 staining (hematoxylin-eosin, RB1 and NEUROD1 stain; top scale bars =1,000 µm, bottom scale bars =200 µm). SCLC, small cell lung cancer.