

Supplementary

Table S1 The clinical basic information of each patient with SMARCA4-dUT and SMARCA4-dNSCLC

Subtype	Patients	Gender/age (years)	Size (mm)	Smoking status (pack-years)	EOCG	History of lung disease	SMARCA4	TTF-1	Napsin A	Ki-67 (%)	CD56	P63	CK5/6	CgA	Syn	NGS	PD-L1 expression	TMB (Muts/Mb)	TNM stage	Metastatic disease	Treatment	Outcome
SMARCA4-dUT	1	M/70	63*41	40	0	-	-	-	-	85-90	-	-	-	-	NA	SMARCA4 (p.N259Tfs*44)	90.00	24.58	III B (T3N2M0)	-	Paclitaxel + nedaplatin + pembrolizumab	PFS (31.4 mo)
SMARCA4-dUT	2	M/59	104*85	30	1	-	-	-	NA	30	-	NA	-	-	NA	NA	NA	NA	IV A (T4N3M1a)	-	NA	NA
SMARCA4-dUT	3	M/69	55*47	100	1	-	-	-	-	90	+	NA	-	-	NA	NA	NA	NA	IV A (T3N3M1a)	-	Paclitaxel + carboplatin + sintilimab	PFS (1.4 mo+)
SMARCA4-dUT	4	M/73	48*34	30	1	-	-	+	-	80	-	Scattered+	NA	-	+	NA	NA	NA	IV B (T2bN3M1c)	Liver	NA	DOD (1.3 mo)
SMARCA4-dUT	5	M/65	42*25*50	80	1	Chronic bronchitis and emphysema	-	-	NA	NA	-	NA	-	-	+	NA	NA	NA	IV B (T2bN2M1c)	Bone, adrenal gland	NA	DOD (1.8 mo)
SMARCA4-dUT	6	M/57	NA	40	1	-	-	-	-	70	Focal+	-	-	NA	-	SMARCA4 (p.Q1041*)	NA	10.00	III B-C (TxN3M0)	-	Paclitaxel + nedaplatin + tislelizumab + radiotherapy	PFS (7.6 mo+)
SMARCA4-dUT	7	M/64	29*23	90	1	Chronic bronchitis	-	-	-	50-60	-	-	NA	-	-	SMARCA4 (p.Q160*)	1.00	24.58	I A (T1cN0M0)	-	Surgical resection	Alive (13 mo+)
SMARCA4-dUT	8	M/56	70*58*72	30	0	-	-	-	-	40	-	-	-	Focal+	+	SMARCA4 (p.Q1236*)	1.00	14.42	IV B (T4N2M1c)	Brain	Paclitaxel + carboplatin + tislelizumab + radiotherapy	PFS (17.1 mo+)
SMARCA4-dUT	9	M/69	66*76*78	0	1	-	-	-	-	60	NA	-	NA	-	+	NA	NA	NA	IV B (T4N3M1c)	-	Paclitaxel + nedaplatin + tislelizumab + radiotherapy	PFS (12.6 mo)
SMARCA4-dUT	10	M/53	70*72	30	1	-	-	-	-	60-70	NA	Focal+	Focal+	NA	-	NA	NA	NA	IV A (T4N1M1a)	Bone	Paclitaxel + nedaplatin + radiotherapy	PFS (5.8 mo)
SMARCA4-dUT	11	M/52	107*71	30	0	-	-	+	-	80	-	NA	-	-	+	SMARCA4 (p.S828Ffs*117)	5.00	40.89	IV B (T4N2M1c)	Bone	Paclitaxel + nedaplatin	PFS (2.2 mo)
SMARCA4-dUT	12	M/80	59*46	30	0	Chronic bronchitis and emphysema	-	-	NA	80	NA	NA	-	NA	-	NA	NA	NA	IV B (T3N2M1c)	Bone	Doxorubicin + nedaplatin + radiotherapy	DOD (1.3 mo)
SMARCA4-dUT	13	M/76	105*78	0	0	-	-	-	-	20-30	-	-	NA	NA	+	NA	NA	NA	cT4NXM0	NA	Paclitaxel + cisplatin + sintilimab	PFS (1.9 mo+)
SMARCA4-dUT	14	M/64	58*47	30	1	-	-	-	NA	80	-	NA	-	-	+	NA	NA	NA	IV A (T4N3M1b)	Pleura	Paclitaxel + carboplatin	DOD (0.3 mo)
SMARCA4-dUT	15	M/67	47*37	0	0	-	-	-	-	80	NA	Scattered+	-	-	-	-	1.00	NA	III B (T2bN3M0)	Bone	Etoposide + nedaplatin + toripalimab + radiotherapy	PFS (11.4 mo)
SMARCA4-dUT	16	M/43	NA	NA	1	-	-	Scattered+	NA	40	-	-	NA	-	+	NA	NA	NA	NA	NA	Pirarubicin + nedaplatin	DOD (2.8 mo)
SMARCA4-dUT	17	M/54	107*113	NA	0	-	-	NA	NA	70	NA	NA	NA	-	+	SMARCA4 (p.L1161Afs*15)	NA	15.04	IV A (T4N3M1b)	Liver	Paclitaxel + nedaplatin + anlotinib + radiotherapy	PFS (4 mo)
SMARCA4-dUT	18	M/70	54*49	NA	0	-	-	-	-	20	-	-	-	NA	-	-	1.00	NA	III B (T3N2M0)	-	Paclitaxel + nedaplatin + tislelizumab	PFS (5.5 mo+)
SMARCA4-dUT	19	M/64	71*62	60	1	-	-	+	Scattered+	30	Focal+	Scattered+	-	Focal+	Focal+	NA	NA	NA	IVA (T4N2M1a)	-	Nedaplatin + etoposide + anlotinib + radiotherapy	PFS (10.7 mo)
SMARCA4-dUT	20	M/79	65*47	75	1	-	-	-	NA	80	-	NA	-	-	+	NA	NA	NA	IV A (T4N2M1b)	Bone	NA	NA
SMARCA4-dUT	21	M/48	NA	NA	0	Pulmonary tuberculosis	-	-	-	30	NA	NA	-	NA	NA	NA	NA	NA	IV A (TxN3M1a)	Pleura	Paclitaxel + carboplatin + anlotinib	PFS (3 mo+)

Table S1 (continued)

Table S1 (continued)

Subtype	Patients	Gender/age (years)	Size (mm)	Smoking status (pack-years)	EOCG	History of lung disease	SMARCA4	TTF-1	Napsin A	Ki-67 (%)	CD56	P63	CK5/6	CgA	Syn	NGS	PD-L1 expression	TMB (Muts/Mb)	TNM stage	Metastatic disease	Treatment	Outcome
SMARCA4-dUT	22	M/71	NA	NA	0	-	-	-	-	80	NA	-	Scattered+	NA	NA	NA	NA	NA	III B-IV B (TxN3Mx)	-	NA	NA
SMARCA4-dUT	23	M/70	34*38	50	0	-	-	-	-	80	NA	-	-	NA	-	NA	NA	NA	IV B (T4NXM1c)	Bone	NA	NA
SMARCA4-dUT	24	M/65	37*20	30	1	-	-	-	NA	70	-	NA	-	-	-	NA	NA	NA	IV A (T3N0M1a)	Brain	NA	NA
SMARCA4-dUT	25	M/49	63*51	30	0	-	-	-	-	35	NA	NA	-	-	-	NA	NA	NA	IV A (T3N2M1b)	Adrenal gland	NA	NA
SMARCA4-dUT	26	M/66	NA	NA	0	-	-	-	-	30	-	-	+	-	-	NA	NA	NA	III A (T3N1M0)	NA	NA	NA
SMARCA4-dUT	27	M/69	NA	40	1	Chronic obstructive pulmonary disease	-	-	NA	60	-	-	-	-	+	NA	NA	NA	III B (T4N2M0)	-	NA	NA
SMARCA4-dUT	28	M/59	118*56	15	0	-	-	-	-	40	-	NA	+	-	-	NA	NA	NA	III C (T4N3M0)	-	NA	NA
SMARCA4-dUT	29	M/66	18*31	20	1	-	-	-	-	NA	-	-	+	-	-	NA	NA	NA	IV B (T2aN2M1c)	Adrenal gland, pleura	NA	NA
SMARCA4-dUT	30	M/78	91*71*79	30	1	Asthma	-	+	-	40	NA	-	-	NA	NA	NA	NA	NA	III A (T4N0M0)	NA	Paclitaxel + nedaplatin + sintilimab	PFS (1 mo+)
SMARCA4-dUT	31	F/49	33*28	0	1	-	-	-	-	50	NA	-	+	NA	NA	NA	NA	NA	IV B (T4N3M1c)	Bone, liver, brain	Paclitaxel + nedaplatin + radiotherapy	PFS (1.7 mo+)
SMARCA4-dUT	32	M/75	39*20	50	1	Chronic obstructive pulmonary disease	-	Focal+	NA	80	-	NA	Focal+	-	+	NA	NA	NA	I B (T2aN0M0)	NA	NA	NA
SMARCA4-dUT	33	M/69	60*62	100	0	-	-	-	+	90	+	NA	-	-	+	NA	NA	NA	III A (T3N2M0)	-	NA	NA
SMARCA4-dUT	34	M/69	NA	40	0	-	-	-	-	90	Scattered+	-	-	-	+	NA	NA	NA	IV B (TxN2M1c)	Brain, adrenal gland	NA	NA
SMARCA4-dUT	35	M/69	NA	NA	0	-	-	Scattered+	-	90	-	NA	NA	-	Focal+	NA	NA	NA	III B-IV B (TxN3Mx)	-	NA	NA
SMARCA4-dNSCLC	36	M/56	73*54	40	0	-	-	-	-	70	-	-	NA	-	Scattered+	NA	2.00	NA	IV A (T4N2M1b)	Adrenal gland	Paclitaxel + carboplatin + sintilimab	PFS (13.6 mo+)
SMARCA4-dNSCLC	37	M/59	16*9	15	0	-	-	-	-	80	NA	-	-	NA	NA	NA	NA	NA	IV B (T2N3M1c)	Bone, liver, brain	NA	DOD (2.9 mo)
SMARCA4-dNSCLC	38	M/69	67*90	0	0	-	-	+	-	80	-	NA	-	NA	+	-	-	4.87	IV B (T4N3M1c)	Bone	Pemetrexed + nedaplatin + tislelizumab + radiotherapy	PFS (5.3 mo+)
SMARCA4-dNSCLC	39	M/60	56*38	5	0	-	-	-	-	70	NA	-	Scattered+	NA	NA	NA	NA	NA	IV B (T3N2M1b)	Bone	NA	NA
SMARCA4-dNSCLC	40	M/56	83*62	80	1	-	-	NA	-	40	NA	-	NA	NA	NA	SMARCA4 p.M98Cfs*205	1.00	10.61	IV B (T4N3M1c)	Adrenal gland, pericardium	NA	NA
SMARCA4-dNSCLC	41	M/66	NA	80	1	Chronic bronchitis and pulmonary tuberculosis	-	-	-	60	NA	+	NA	NA	NA	SMARCA4 (p.S828Pfs*3)	NA	NA	III B-III C (TxN2M0)	-	NA	NA

Table S1 (continued)

Table S1 (continued)

Subtype	Patients	Gender/age (years)	Size (mm)	Smoking status (pack-years)	EOCG	History of lung disease	SMARCA4	TTF-1	Napsin A	Ki-67 (%)	CD56	P63	CK5/6	CgA	Syn	NGS	PD-L1 expression	TMB (Muts/Mb)	TNM stage	Metastatic disease	Treatment	Outcome
SMARCA4-dNSCLC	42	F/58	51*49*65	0	0	-	-	Focal+	NA	30	NA	Focal+	Focal+	NA	NA99	SMARCA4 (p.R1491*)	1.00	2.79	IV B (T3N3M1c)	Bone, pleura	Pemetrexed + carboplatin + sintilimab	PFS (3.2 mo)
SMARCA4-dNSCLC	43	M/45	108*83	10	1	Chronic bronchitis	-	-	-	40	NA	-	NA	NA	NA	SMARCA4 (p.S51*)	1.00	NA	IV B (T4N2M1c)	Adrenal gland	NA	NA
SMARCA4-dNSCLC	44	M/56	52*54	80	0	Chronic bronchitis	-	+	NA	50	NA	Scattered+	NA	NA	NA	SMARCA4 (p.S51*, p.S312Y)	2.00	47.49	IVA (T3N2M1b)	Brain	Pemetrexed + carboplatin + sintilimab + radiotherapy	PFS (5.6 mo+)
SMARCA4-dNSCLC	45	M/50	30*24	52	1	-	-	-	-	50	NA	NA	-	-	-	SMARCA4 (p.Y1050Tfs*56)	1.00	12.29	IV A (T4N3M1a)	-	Pemetrexed + nedaplatin	PFS (3 mo)
SMARCA4-dNSCLC	46	M/76	52*28	15	0	Chronic bronchitis	-	+	NA	20-30	-	NA	-	NA	-	SMARCA4 (p.Q331*, p.K953K, p.S312F)	25.00	8.38	IV B (T4N3M1c)	Bone, liver, pleura	NA	NA
SMARCA4-dNSCLC	47	M/61	NA	40	0	-	-	-	-	60	NA	NA	NA	NA	NA	SMARCA4 (p.G243Afs*60)	NA	NA	IV A (TxN2M1a)	Pleura	NA	NA
SMARCA4-dNSCLC	48	M/54	26*17	20	0	-	-	NA	NA	NA	NA	NA	NA	NA	NA	SMARCA4 (p.G360Afs*51)	1.00	7.82	IV A (T4N3M1b)	Bone	Pembrolizumab + docetaxel + lobaplatin + bevacizumab + radiotherapy	PFS (10.1 mo+)
SMARCA4-dNSCLC	49	M/61	49*34	40	0	-	-	-	NA	35-40	NA	Focal+	NA	NA	+	SMARCA4 (p.R381*, copy number decrease)	3.00	9.64	IV A (T4N2M1b)	-	Paclitaxel + nedaplatin + afatinib	PFS (3.9 mo)
SMARCA4-dNSCLC	50	M/69	34*32	40	0	-	-	+	+	40	NA	-	-	NA	NA	SMARCA4 p.Q1166*	NA	5.84	III B (T2N3M0)	-	NA	NA
SMARCA4-dNSCLC	51	M/79	37*26	60	1	-	-	-	-	NA	-	NA	-	-	-	SMARCA4 p.S100*	30.00	17.53	IV B (T2N3M1c)	Bone, pericardium	NA	NA
SMARCA4-dNSCLC	52	M/64	71*45	0	0	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.00	5.84	III C-IV B T4N3Mx	-	NA	NA
SMARCA4-dNSCLC	53	M/56	34*33	45	0	-	-	+	+	80	NA	-	-	NA	NA	NA	NA	NA	IV B (T4N3M1c)	Brain	NA	NA
SMARCA4-dNSCLC	54	M/74	6*5	40	1	Chronic bronchitis and emphysema	-	+	-	40	NA	-	NA	NA	NA	NA	NA	NA	IV B (T4N1M1c)	Pleura, muscle	NA	NA
SMARCA4-dNSCLC	55	M/57	22*20	40	0	-	-	+	-	80	NA	NA	-	NA	NA	NA	NA	NA	IV B (T1cN3M1c)	Bone, brain	Paclitaxel + nedaplatin + tislelizumab + radiotherapy	PFS (6.8 mo+)
SMARCA4-dNSCLC	56	M/70	39*43	50	0	-	-	Focal+	-	90	-	-	-	NA	Focal+	NA	NA	NA	IV A (T4N3M1a)	-	NA	NA
SMARCA4-dNSCLC	57	M/58	35*29	45	1	-	-	-	-	90	-	NA	NA	-	-	NA	NA	NA	IV B (T1cNxM1c)	Brain, Adrenal gland	Microwave ablation	NA
SMARCA4-dNSCLC	58	M/72	49*40	50	1	-	-	-	NA	40-50	NA	-	+	NA	NA	NA	NA	NA	III B (T2bN3M0)	Adrenal gland	NA	NA
SMARCA4-dNSCLC	59	F/60	25*22	0	1	-	-	-	-	20-30	NA	Focal+	+	NA	NA	NA	NA	NA	IV B (T2N3M1c)	Bone, Adrenal gland	NA	NA

SMARCA4-dUT, SMARCA4-deficient undifferentiated tumors; SMARCA4-dNSCLC, SMARCA4-deficient non-small cell lung cancer; M, male; F, female; NA, not available; EOCG, Eastern Cooperative Oncology Group; TTF-1, thyroid transcription factor-1; Napsin A, aspartic peptidase napsin A; Ki-67, antigen identified by monoclonal antibody Ki-67; CD56, neuronal cell adhesion molecule; P63, tumor protein 63; CK5/6, cytokeratin 5/6; CgA, chromogranin A; Syn, synaptophysin; NGS, next-generation sequencing; PD-L1, programmed cell death ligand 1; TMB, tumor mutational burden; TNM, tumor node metastasis; DOD, death of disease; PFS, progression-free survival; mo, months.