

**Supplementary Table 2.** Comparison of patient characteristics between original trial and biomarker cohort.

Factors		UFT arm				S-1 arm				Pac-UFT arm				Pac-S-1 arm			
		original trial (n=374)		biomarker cohort (n=124)		original trial (n=374)		biomarker cohort (n=124)		original trial (n=374)		biomarker cohort (n=123)		original trial (n=373)		biomarker cohort (n=128)	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Age	Median (range)	65(29-80)		65(29-80)		65(30-80)		65(38-80)		65(22-80)		66(30-80)		65(36-80)		67(37-80)	
Gender	Male	260	70	87	70	254	68	77	62	253	68	86	70	262	70	93	73
	Female	114	30	37	30	120	32	47	38	121	32	37	30	111	30	35	27
PS	0	329	88	107	86	323	86	103	83	319	85	101	82	316	85	105	82
	1	45	12	17	14	51	14	21	17	55	15	22	18	57	15	23	18
Histology	Diff	143	38	45	36	150	40	52	42	137	37	49	40	141	38	55	43
	Undiff	219	59	77	63	212	57	70	56	222	59	71	58	217	58	72	56
	Others	12	3	1	1	12	3	2	2	14	4	2	2	15	4	1	1
T stage	pT1	4	1	2	2	5	1	4	3	3	1	0	0	3	1	0	0
	pT2	88	24	40	32	96	26	38	30	86	24	32	26	98	27	42	33
	pT3	248	68	77	62	253	69	80	65	250	68	83	67	244	67	81	64
	pT4	25	7	5	4	15	4	2	2	27	7	7	6	19	5	4	3
N stage	pN0	67	18	17	14	63	17	25	20	73	20	34	28	67	18	28	22
	pN1	137	38	46	37	146	40	51	41	148	40	41	33	135	37	39	31
	pN2	157	43	59	47	155	42	46	37	141	39	46	38	155	43	55	43
	pN3	4	1	2	2	5	1	2	2	4	1	1	1	7	2	5	4

Wilcoxon  $p > 0.05$  for age comparisons between original trial and biomarker cohort, Fisher's Exact  $p > 0.05$  for gender, PS, histology, T stage and N stage for all comparisons between original trial and biomarker cohort. Similarly, there was no statistically significant difference Summary: No statistically significant differences in patient characteristics between original trial cohort and biomarker cohort.

**Supplementary Table 3.** Comparison of patient characteristics between QC fail samples and biomarker cohort.

Factors		UFT arm				S-1 arm				Pac-UFT arm				Pac-S-1 arm			
		QC fail (n=10)		biomarker cohort (n=124)		QC fail (n=12)		biomarker cohort (n=124)		QC fail (n=16)		biomarker cohort (n=123)		QC fail (n=15)		biomarker cohort (n=128)	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Age	Median (range)	60(37-79)		64(29-80)		61(42-80)		65(38-80)		60(35-78)		66(30-80)		63(50-79)		67(37-80)	
Gender	Male	8	80	87	70	8	67	77	62	8	50	86	70	11	73	93	73
	Female	2	20	37	30	4	33	47	38	8	50	37	30	4	27	35	27
PS	0	8	80	107	86	10	83	103	83	13	81	101	82	11	73	105	82
	1	2	20	17	14	2	17	21	17	3	19	22	18	4	27	23	18
Histology	Diff	1	10	45	36	6	50	52	42	3	19	49	40	2	13	55	43
	Undiff/Others	8	80	78	64	4	33	72	58	12	75	73	60	10	67	73	57
T stage	pT1/2	1	10	42	34	4	33	42	34	2	13	32	26	4	27	42	33
	pT3/4	8	80	82	66	6	50	82	66	13	81	90	73	8	53	85	66
N stage	pN0/1	3	30	63	51	3	25	76	61	11	69	75	61	8	53	67	52
	pN2/3	6	60	61	49	7	58	48	39	4	25	47	38	4	27	60	47

Wilcoxon  $p > 0.05$  for age comparisons between QC fail samples and biomarker cohort, Fisher's Exact  $p > 0.05$  for gender, PS, histology, T stage and N stage for all comparisons.

**Supplementary Table 4.** Clinicopathologic characteristics of SAMIT Pac-UFT patients by gene signature

Characteristics		Pac-UFT (N = 123)				p-val*
		<i>Pac-Sensitive</i>		<i>Pac-Resistant</i>		
		(N = 98)		(N = 25)		
		n	%	n	%	
<b>Age</b>	Median (years)	65		68		0.12
<b>Gender</b>	Male	67	68	19	76	0.63
	Female	31	32	6	24	
<b>PS</b>	ECOG 0	80	82	21	84	1
	ECOG 1	18	18	4	16	
<b>Histological subtype</b>	Diff	38	39	11	44	0.65
	Undiff/ others	60	61	14	56	
<b>Tumor category</b>	pT1/2	26	27	6	24	1
	pT3/4	71	72	19	76	
<b>Node category</b>	pN0/1	62	63	13	52	0.36
	pN2/3	35	36	12	48	

\*p value of Fisher's Exact test between *Pac-Sensitive* and *Pac-Resistant*

PS = performance status, Diff = differentiated, Undiff = undifferentiated.