

Supplemental Table 1: Sample Classifications

	<u>Clinicopathological Diagnosis</u>	<u>Two-gene classification using qRT-PCR</u>	<u>Two-gene classification using microarray</u>
Sample 1	GIST		GIST
Sample 2	LMS	LMS	LMS
Sample 3	GIST		GIST
Sample 4	GIST		GIST
Sample 5	LMS		LMS
Sample 6	LMS		LMS
Sample 7	GIST	GIST	GIST
Sample 8	GIST		GIST
Sample 9	GIST		GIST
Sample 10	LMS	LMS	LMS
Sample 11	GIST		GIST
Sample 12	GIST		GIST
Sample 13	GIST	GIST	GIST
Sample 14	LMS		LMS
Sample 15	GIST	GIST	GIST
Sample 16	GIST	GIST	INDETERMINATE
Sample 17	LMS		LMS
Sample 18	GIST		GIST
Sample 19	GIST	GIST	GIST
Sample 20	LMS	LMS	LMS
Sample 21	GIST		GIST
Sample 22	LMS	LMS	LMS
Sample 23	GIST		GIST
Sample 24	LMS		LMS
Sample 25	GIST		GIST
Sample 26	LMS	LMS	LMS
Sample 27	GIST		GIST

Sample 28	GIST		GIST
Sample 29	GIST	GIST	GIST
Sample 30	LMS		LMS
Sample 31	LMS		LMS
Sample 32	GIST		GIST
Sample 33	LMS	LMS	LMS
Sample 34	GIST		GIST
Sample 35	GIST		GIST
Sample 36	LMS		LMS
Sample 37	LMS	LMS	LMS
Sample 38	GIST		GIST
Sample 39	GIST		GIST
Sample 40	GIST	GIST	GIST
Sample 41	GIST	GIST	GIST
Sample 42	LMS		LMS
Sample 43	GIST		GIST
Sample 44	LMS		LMS
Sample 45	GIST		GIST
Sample 46	LMS		LMS
Sample 47	LMS		LMS
Sample 48	GIST		GIST
Sample 49	GIST	GIST	GIST
Sample 50	GIST		GIST
Sample 51	LMS		LMS
Sample 52	GIST	GIST	GIST
Sample 53	LMS		LMS
Sample 54	GIST		GIST
Sample 55	GIST		GIST
Sample 56	GIST		GIST

Sample 57	LMS		LMS
Sample 58	LMS	LMS	LMS
Sample 59	LMS		LMS
Sample 60	LMS		LMS
Sample 61	LMS	LMS	LMS
Sample 62	LMS	LMS	LMS
Sample 63	LMS		LMS
Sample 64	LMS		LMS
Sample 65	LMS		LMS
Sample 66	LMS		LMS
Sample 67	GIST		GIST
Sample 68	GIST		GIST
<b>Independent Test Set</b>			
Sample 69	GIST	GIST	
Sample 70	GIST	GIST	
Sample 71	GIST	GIST	
Sample 72	GIST	GIST	
Sample 73	GIST	GIST	
Sample 74	GIST	GIST	
Sample 75	GIST	GIST	
Sample 76	GIST	GIST	
Sample 77	GIST	GIST	
Sample 78	GIST	GIST	
Sample 79	GIST	GIST	
Sample 80	GIST	GIST	
Sample 81*	GIST	GIST	
Sample 82	LMS	LMS	
Sample 83	LMS	LMS	
Sample 84	LMS	LMS	
Sample 85	LMS	LMS	
Sample 86	LMS	LMS	
Sample 87*	GIST	GIST	
NOTE: Samples 1 to 68 correspond in order to the columns of the online microarray data set			
* Samples 81 and 87 are from fine needle aspirates, demonstrating that the approach can work from very small amounts of tissue			