

SUPPLEMENTARY DATA TABLES

MOB Buffers/ Reagents:

Protease K	
Lysing Buffer	50 mM Tris-HCl (pH 8.5) 50 mM EDTA 1% SDS 10 mM NaCl
MOB Binding Buffer 1	7 M Guanidine HCl in 1M Citric Buffer (see below)*
MOB Binding Buffer 2	7M Guanidine HCl in 3M Citric Acid (see below)#
IPA	100% Isopropanol
Magnetic Beads	silica superparamagnetic particles (Novagen MagPrep)
MOB Wash Buffer 1	37.5 ml 100% IPA and 12.5 ml 8M Sodium Perchlorate
MOB Wash Buffer 2	80% Ethanol
Bisulfite Conversion Buffers	12 μ l .02 M Hydroquinone 200 μ l 6.9 M Sodium Bisulfite (adjusted to pH 5-5.5 with NaOH) 6 μ l 2M Sodium Hydroxide 120 μ L 10M Sodium Hydroxide
MOB Elution Buffer	10 mM Tris-HCl (pH 8.5)

Supplementary Table 1. MOB reagents and buffers are provided with appropriate concentrations.

<i>Gene</i>	Methylated Forward	Methylated Reverse
<i>p16^{INK4A}</i>	5'-GGTTGGTTTTTTATTTTGTAGAGTGAGGT-3'	5'-AACCACTCTAACCAAAAATACAAACACA-3'
<i>p15^{INK4B}</i>	5'-GGTTTTTTATTTTGTAGAGCGAGGC-3'	5'-TAACCGCAAAATACGAACGCG-3'
<i>ASC/TMS1</i>	5'-GCGGGGAGTTTAGGTTTCGTTTC-3'	5'-CCAACGCATCCAAAATAACGTCG-3'

Supplementary Table 2. Sequence of primers used for MSP and MS-qFRET analysis.

Patient#	Histology	Size of Tumor	Stage	MOB	PC/Bst/MSP
1	Adeno	2.5 cm	Stage I	-	-
2	Adeno	3 cm	Stage I	+	+
3	Squamous	5.5 cm	Stage I	+	+
4	Adeno	3 cm	Stage III	+	-
5	Normal			-	-
6	Normal			-	-
7	Normal			-	-
8	Normal			-	-
9	Squamous	2.5 cm	Stage I	+	-
10	Normal			-	-
11	Squamous	1.8 cm	Stage I	+	-
12	Squamous	3 cm	Stage III	+	+
13	Normal			-	-
14	Adeno	1.5 cm	Stage I	-	-
15	Normal			-	-
16	Squamous	1.5 cm	Stage I	+	+
17	Normal			-	-
18	Normal			-	-
19	Adeno	3.8 cm	Stage II	-	-
20	Normal			-	-
21	Normal			-	-
22	Adeno	3.0 cm	Stage III	+	+
23	Squamous	2.5 cm	Stage III	+	+
24	Normal			+	-
25	Squamous	7.5 cm	Stage I	-	-
26	Adeno	3.2 cm	Stage I	-	-
27	Adeno	1.0 cm	Stage I	+	-
28	Squamous	2.2 cm	Stage III	+	+
29	Normal			-	-
30	Adeno	2.0 cm	Stage III	+	-
31	Squamous	3.0 cm	Stage III	+	+
32	Adeno	3.0 cm	Stage III	+	+
33	Normal			+	-
34	Normal			-	-
35	Adeno	2.0 cm	Stage II	-	-
36	Carcinoma	8.0 cm	Stage III	+	+
37	Normal			-	-
38	Adeno	2.5 cm	Stage III	+	-
39	Adeno	2.8 cm	Stage II	+	+
40	Adeno	3.5 cm	Stage II	+	+
41	Adeno	4.9 cm	Stage II	-	-

42	Adenosquamous	1.5 cm	Stage III	+	-
43	Adeno	1.5 cm	Stage II	-	-
44	Adeno	2.0 cm	Stage III	+	+
45	Normal			-	-
46	Adeno	3.2 cm	Stage II	+	-
47	Adeno	2.0 cm	Stage III	+	+
48	Squamous	7.0 cm	Stage II	+	-
49	Normal			-	-

Supplementary Table 3. Methylation analysis of *p16^{INK4a}* promoter compared for MOB and PC/Bst/MSP in serum DNA from normal and cancer patients. MOB was able to detect 23 out of 31 cancerous samples while PC/Bst/MSP detected only 14 out of 31.