

**Supplementary Table S1. *SMAD4* genotype per primary HNSCC determined by FISH**

Primary HNSCC: <i>SMAD4</i> Genotype per Tumor by FISH					
<i>Primary HNSCC #</i>	<i>SMAD4/CEN18</i>	<i>SMAD4 Genotype</i>	<i>Primary HNSCC #</i>	<i>SMAD4/CEN18</i>	<i>SMAD4 Genotype</i>
1	0.95	Balanced	11	0.99	Balanced
2	0.26	Hemizygous Del	12	1.03	Balanced
3	0.31	Hemizygous Del	13	1.23	Gain
4	1.01	Balanced	14	1.10	Balanced
5	0.93	Balanced	15	0.51	Hemizygous Del
6	0.95	Balanced	16	0.65	Hemizygous Del
7	0.47	Hemizygous Del	17	0.76	Hemizygous Del
8	0.41	Hemizygous Del	18	0.84	Balanced
9	0.98	Balanced	19	1.00	Balanced
10	1.00	Balanced	20	0.96	Balanced

**Supplementary Table S2. SMAD4 genotype per PDX tumor determined by FISH**

PDX Tumor: SMAD4 Genotype per Tumor by FISH								
CUHN ID	SMAD4/ CEN18	SMAD4 Genotype	CUHN ID	SMAD4/ CEN18	SMAD4 Genotype	CUHN ID	SMAD4/ CEN18	SMAD4 Genotype
002	0.49	Hemizygous Del	040	0.75	Hemizygous Del	076	0.81	Balanced
004	0.51	Hemizygous Del	042	1.03	Balanced	079	0.98	Balanced
007	0.55	Hemizygous Del	043	0.53	Hemizygous Del	086	1.04	Balanced
011	0.58	Hemizygous Del	044	1.03	Balanced	088	0.96	Balanced
013	0.47	Hemizygous Del	047	1.01	Balanced	092	0.00	Homozygous Del
014	0.96	Balanced	049	0.78	Balanced	093	0.22	Hemizygous Del
015	1.07	Balanced	050	0.94	Balanced	095	0.71	Hemizygous Del
022	0.95	Balanced	064	0.76	Hemizygous Del	096	1.00	Balanced
025	0.24	Hemizygous Del	065	0.00	Homozygous Del	097	0.99	Balanced
026	1.11	Balanced	067	0.91	Balanced	098	0.99	Balanced
027	0.93	Balanced	068	1.03	Balanced	103	0.67	Hemizygous Del
029	0.69	Hemizygous Del	069	0.93	Balanced	108	1.00	Balanced
032	0.94	Balanced	070	0.94	Balanced	109	0.45	Hemizygous Del
033	0.40	Hemizygous Del	071	1.09	Balanced	111	0.46	Hemizygous Del
035	1.09	Balanced	072	0.47	Hemizygous Del			
036	0.57	Hemizygous Del	072-2	0.34	Hemizygous Del			

**Supplementary Table S3. *SMAD4* and *CEN18* copy number per primary HNSCC determined by FISH**

Primary HNSCC: <i>SMAD4</i> and <i>CEN18</i> Copy Number per Tumor									
<i>Primary HNSCC #</i>	<i>Copy Number</i>	<i>SMAD4</i>	<i>Copy Number</i>	<i>CEN18</i>	<i>Primary HNSCC #</i>	<i>Copy Number</i>	<i>SMAD4</i>	<i>Copy Number</i>	<i>CEN18</i>
1	2.82	Polysomy	2.98	Polysomy	11	1.52	Disomy	1.54	Disomy
2	1.40	Monosomy	5.38	Polysomy	12	1.98	Disomy	1.92	Disomy
3	1.66	Disomy	5.38	Polysomy	13	3.16	Polysomy	2.56	Polysomy
4	1.92	Disomy	1.90	Disomy	14	3.38	Polysomy	3.06	Polysomy
5	3.48	Polysomy	3.76	Polysomy	15	1.04	Monosomy	2.04	Disomy
6	1.76	Disomy	1.86	Disomy	16	1.40	Monosomy	2.14	Disomy
7	1.04	Monosomy	2.22	Disomy	17	1.73	Disomy	2.27	Disomy
8	1.18	Monosomy	2.90	Polysomy	18	2.14	Disomy	2.54	Polysomy
9	1.90	Disomy	1.94	Disomy	19	1.92	Disomy	1.92	Disomy
10	1.92	Disomy	1.92	Disomy	20	2.66	Polysomy	2.78	Polysomy

**Supplementary Table S4. *SMAD4* and *CEN18* copy number per PDX tumor determined by FISH**

PDX Tumor: <i>SMAD4</i> and <i>CEN18</i> Copy Number per Tumor									
<i>CUHN ID</i>	Copy Number	<i>SMAD4</i>	Copy Number	<i>CEN18</i>	<i>CUHN ID</i>	Copy Number	<i>SMAD4</i>	Copy Number	<i>CEN18</i>
002	0.98	Monosomy	2.02	Disomy	064	1.94	Disomy	2.54	Polysomy
004	1.24	Monosomy	2.44	Disomy	065	0.00	Nullisomy	2.10	Disomy
007	1.62	Disomy	2.92	Polysomy	067	1.62	Disomy	1.78	Disomy
011	1.58	Disomy	2.72	Polysomy	068	2.14	Disomy	2.08	Disomy
013	1.54	Disomy	3.28	Polysomy	069	3.40	Polysomy	3.64	Polysomy
014	1.78	Disomy	1.86	Disomy	070	1.66	Disomy	1.76	Disomy
015	2.14	Disomy	2.00	Disomy	071	2.34	Disomy	2.14	Disomy
022	1.66	Disomy	1.74	Disomy	072	1.04	Monosomy	2.22	Disomy
025	1.14	Monosomy	4.80	Polysomy	072-2	1.12	Monosomy	3.26	Polysomy
026	3.10	Polysomy	2.80	Polysomy	076	2.26	Disomy	2.78	Polysomy
027	0.84	Monosomy	0.90	Monosomy	079	2.56	Polysomy	2.60	Polysomy
029	1.50	Monosomy	2.16	Disomy	086	2.74	Polysomy	2.64	Polysomy
032	1.86	Disomy	1.98	Disomy	088	2.40	Disomy	2.50	Disomy
033	0.98	Monosomy	2.46	Disomy	092	0.00	Nullisomy	1.66	Disomy
035	2.16	Disomy	1.98	Disomy	093	0.86	Monosomy	3.94	Polysomy
036	1.36	Monosomy	2.38	Disomy	095	1.66	Disomy	2.34	Disomy
040	2.36	Disomy	3.16	Polysomy	096	1.82	Disomy	1.82	Disomy
042	1.86	Disomy	1.80	Disomy	097	1.70	Disomy	1.72	Disomy
043	1.34	Monosomy	2.52	Polysomy	098	2.30	Disomy	2.32	Disomy
044	2.82	Polysomy	2.74	Polysomy	103	1.50	Monosomy	2.23	Disomy
047	1.80	Disomy	1.78	Disomy	108	2.34	Disomy	2.34	Disomy
049	1.58	Disomy	2.03	Disomy	109	1.32	Monosomy	2.94	Polysomy
050	1.96	Disomy	2.08	Disomy	111	2.36	Disomy	5.12	Polysomy