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## Supplemental information

**Hypermethylation of *nc886* in HPV-positive  
oropharyngeal cancer and its clinical implications:**

**An epigenome-wide association study**

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**Table S1. Significantly differentially methylated CpG sites (DMCs) in leukocytes DNA between HPV(+) and HPV(-) OPSCC patients ( $q$ -value < 0.05 and  $d > 5$ ).**

CpG ID	Chr.	Gene	Relation to CpG Island	Enhancer	DNase Hypersensitivity	Effect Size ( $\Delta\beta$ value*)
cg09319777	chr1	MAST2	OpenSea		chr1:46496425-46496975	-0.0279
cg15524170	chr11	CD82	OpenSea			-0.0256
cg19601138	chr10	FAM107B	OpenSea	TRUE		-0.0198
cg13987862	chr9	FKBP15	OpenSea			-0.0147
cg19762564	chr5		OpenSea	TRUE		-0.0105
<b>cg10702669</b>	<b>chr16</b>	<b>TBC1D24</b>	<b>Island</b>			<b>-0.0172</b>
cg12153399	chr9	SLC34A3	N-Shelf			-0.0242
cg05483391	chr3	FOXP1	OpenSea	TRUE	chr3:71608880-71609255	-0.0499
cg11690063	chr7	GLCCI1	OpenSea			-0.0113
cg10356363	chr20	CEBPB;CEBPB-AS1	N-Shore			-0.0140
cg05772134	chr1		OpenSea		chr1:172972240-172972635	-0.0407
cg13989666	chr11	UVRAG	OpenSea			-0.0103
cg12380967	chr17	MYO1D	OpenSea			-0.0107
cg13959440	chr8		OpenSea		chr8:108767765-108768055	-0.0206
cg25885356	chr21	RUNX1	OpenSea		chr21:36297125-36297610	-0.0411
cg10291991	chr1		OpenSea		chr1:206914425-206914795	-0.0150
cg20993386	chr17	PITPNC1	OpenSea	TRUE	chr17:65408145-65408650	-0.0196
cg13630250	chr14	COX16	S-Shore			-0.0770
cg16204524	chr2	GPR113	N-Shelf		chr2:26565705-26566150	-0.0091
cg04874511	chr13	CAB39L	OpenSea	TRUE		-0.0120
cg23344459	chr8		OpenSea		chr8:135356925-135357215	-0.0304
cg15630215	chr2	DQX1	OpenSea			-0.0266
cg07517948	chr15		OpenSea	TRUE		-0.0272
cg26831184	chr1		OpenSea			-0.0140
<b>cg25090325</b>	<b>chr3</b>	<b>AMIGO3; RNF123</b>	<b>Island</b>	<b>TRUE</b>		<b>-0.0390</b>

$\Delta\beta$  value: the  $\beta$  value of HPV(+) patients minus  $\beta$  value of HPV(-) patients.

**Table S2. Reactome pathways enriched in pathway enrichment analysis**

<b>Pathway</b>	<b>Fold enrichment</b>	<b>Raw p-value</b>	<b>FDR q-value</b>
Chromatin modifying enzymes	2.75	$1.51 \times 10^{-5}$	0.0331
Chromatin organization	2.75	$1.51 \times 10^{-5}$	0.0166
Olfactory Signaling Pathway	0.12	$2.42 \times 10^{-5}$	0.0177