

## HOX genes and oral squamous cell carcinoma

**Supplementary Table 1.** Correlation between nuclear or cytoplasmic HOXA13 expression and main clinical features in deep and superficial margin of the lesion

Crosstabs		HOXA13 Deep nuclear expression		P value	HOXA13 Deep cytoplasmic expression		P value	HOXA13 Superficial nuclear expression		P value	HOXA13 Superficial cytoplasmic expression		P value
		≤40	41+		≤40	41+		≤40	41+		≤40	41+	
Median expression		≤40	41+		≤40	41+		≤40	41+		≤40	41+	
Grading	G1	11	6	0.168	11	6	0.458	8	9	0.274	6	11	0.343
		64.70588	35.29412		64.70588	35.29412		47.05882	52.94118		35.29412	64.70588	
	G2	29	27		27	29		32	14		26	20	
	G3	51.78571	48.21429	48.21429	51.78571	69.56522	30.43478	56.52174	43.47826				
		19	7	15	11	19	10	15	14				
		73.07692	26.92308	57.69231	42.30769	65.51724	34.48276	51.72414	48.27586				
Lymphonode metastasis	N0	27	18	0.6	23	22	0.685	26	14	1	20	20	0.834
		60	40		51.11111	48.88889		65	35		50	50	
	N2+	32	21		30	23		33	18		27	24	
	I	60.37736	39.62264	56.60377	43.39623	64.70588	35.29412	52.94118	47.05882				
		4	4	3	5	4	3	1	6				
	II	50	50	37.5	62.5	57.14286	42.85714	14.28571	85.71429				
	III	17	9	16	10	16	6	12	10				
		65.38462	34.61538	61.53846	38.46154	72.72727	27.27273	54.54545	45.45455				
	IV	12	13	10	15	12	9	10	11				
Stage	I	48	52	40	60	57.14286	42.85714	47.61905	52.38095				
		26	14	24	16	27	15	24	18				
	II	65	35	60	40	64.28571	35.71429	57.14286	42.85714				
T	1	7	7	7	7	8	5	6	7				
		50	50	50	50	61.53846	38.46154	46.15385	53.84615				
	2	28	18	27	19	28	13	21	20				
	3	60.86957	39.13043	58.69565	41.30435	68.29268	31.70732	51.21951	48.78049				
		12	6	8	10	9	9	9	9				
	4	66.66667	33.33333	44.44444	55.55556	50	50	50	50				
Gender	F	12	9	11	10	14	6	11	9				
		57.14286	42.85714	52.38095	47.61905	70	30	55	45				
	M	18	13	16	15	19	8	14	13				
	M	58.06452	41.93548	51.6129	48.3871	70.37037	29.62963	51.85185	48.14815				
		41	27	37	31	40	25	33	32				
	<68	60.29412	39.70588	54.41176	45.58824	61.53846	38.46154	50.76923	49.23077				
Age	<68	31	20	29	22	34	16	27	23				
		60.78431	39.21569	56.86275	43.13725	68	32	54	46				
	>68	28	20	24	24	25	17	20	22				
		58.33333	41.66667	50	50	59.52381	40.47619	47.61905	52.38095				

## HOX genes and oral squamous cell carcinoma

Chemotherapy	No	30	18	1	29	19	0.22	33	10	0.273	23	20	0.624
		62.5	37.5		60.41667	39.58333		76.74419	23.25581		53.48837	46.51163	
	Yes	16	9		11	14		16	10		12	14	
		64	36		44	56		61.53846	38.46154		46.15385	53.84615	
Radiotherapy	No	6	6	0.341	5	7	0.357	8	4	0.734	5	7	0.54
		50	50		41.66667	58.33333		66.66667	33.33333		41.66667	58.33333	
	Yes	40	21		35	26		41	16		30	27	
		65.57377	34.42623		57.37705	42.62295		71.92982	28.07018		52.63158	47.36842	
Anatomic site	Lip	2	1	1	0	3	0.154	2	1	0.111	0	3	0.044
		66.66667	33.33333		0	100		66.66667	33.33333		0	100	
	Toungue	35	24		34	25		30	24		25	29	
		59.32203	40.67797		57.62712	42.37288		55.55556	44.44444		46.2963	53.7037	
	Other	22	15		19	18		27	8		22	13	
		59.45946	40.54054		51.35135	48.64865		77.14286	22.85714		62.85714	37.14286	

## HOX genes and oral squamous cell carcinoma

**Supplementary Table 2.** Correlation between nuclear or cytoplasmic HOXB13 expression and main clinical features in deep and superficial margin of the lesion

Crosstabs		HOXB13 Deep nuclear expres- sion		P value	HOXB13 Deep cytoplasmic expression		P value	HOXB13 Superficial nuclear expression		P value	HOXB13 Superficial cytoplasmic expression		P value		
		≤30	31+		≤0	1+		≤30	31+		≤0	1+			
Median ex- pression		≤30	31+		≤0	1+		≤30	31+		≤0	1+			
Grading	G1	11	8	0.383	14	5	1	10	10	0.623	13	6	0.544		
		57.89473684	42.10526316		73.68421053	26.31578947		52.63158	47.36842		68.42105	31.57895			
	G2	34	26	56.66666667	43	17	71.66666667	34	19	65.38462	28	24	34.61538	53.84615	46.15385
		56.66666667	43.33333333		71.66666667	28.33333333		65.38462	34.61538		53.84615	46.15385			
	G3	11	16	40.74074074	19	8	70.37037037	17	11	60.71429	16	12	39.28571	57.14286	42.85714
		40.74074074	59.25925926		70.37037037	29.62962963		60.71429	39.28571		57.14286	42.85714			
Lymphonode metastasis	N0	29	21	0.329	36	14	1	26	19	0.54	27	18	0.83		
		58	42		72	28		57.77778	42.22222		60	40			
	N2+	26	29	47.27273	39	16	70.90909	34	19	64.15094	30	23	35.84906	56.60377	43.39623
		47.27273	52.72727		70.90909	29.09091		64.15094	35.84906		56.60377	43.39623			
Stage	I	7	4	0.426	9	2	0.319	5	5	0.816	7	3	0.477		
		63.63636364	36.36363636		81.81818	18.18182		50	50		70	30			
	II	17	11	60.71428571	19	9	67.85714	14	8	63.63636	14	8	36.36364	63.63636	36.36364
		60.71428571	39.28571429		67.85714	32.14286		63.63636	36.36364		63.63636	36.36364			
	III	10	15	53.48837209	21	4	65.11628	14	10	65.11628	15	9	34.88372	48.83721	51.16279
		53.48837209	46.51162791		65.11628	34.88372		65.11628	34.88372		48.83721	51.16279			
IV	40	60	55.55555556	84	16	83.33333	58.33333	41.66667	62.7907	62.5	37.5	37.2093	62.7907	37.2093	
	57.14285714	42.85714286		71.42857	28.57143		62.7907	37.2093		62.7907	37.2093				
T	1	10	8	0.624	15	3	0.599	9	7	0.915	11	5	0.399		
		55.55555556	44.44444444		83.33333	16.66667		56.25	43.75		68.75	31.25			
	2	28	21	57.14285714	35	14	71.42857	27	16	62.7907	27	16	37.2093	62.7907	37.2093
		57.14285714	42.85714286		71.42857	28.57143		62.7907	37.2093		62.7907	37.2093			
	3	7	11	38.88888889	13	5	72.22222	11	8	57.89474	9	10	42.10526	47.36842	52.63158
		38.88888889	61.11111111		72.22222	27.77778		57.89474	42.10526		47.36842	52.63158			
4	12	10	54.54545455	14	8	63.63636	14	7	66.66667	10	11	33.33333	47.61905	52.38095	
	54.54545455	45.45454545		63.63636	36.36364		66.66667	33.33333		47.61905	52.38095				
Gender	F	18	13	0.67	24	7	0.484	19	10	0.656	15	14	0.506		
		58.06451613	41.93548387		77.41935	22.58065		65.51724	34.48276		51.72414	48.27586			
	M	39	37	51.31578947	53	23	69.73684	42	28	60	42	28	40	60	40
		51.31578947	48.68421053		69.73684	30.26316		60	40		60	40			

### HOX genes and oral squamous cell carcinoma

Age	<68	35	22	0.84	43	14	0.549	36	15	0.066	28	23	0.685
		61.40350877	38.59649123		75.4386	24.5614		70.58824	29.41176		54.90196	45.09804	
	>68	22	28		34	16		25	23		29	19	
		44	56		68	32		52.08333	47.91667		60.41667	39.58333	
Chemotherapy	No	31	21	0.473	38	14	0.5	25	19	0.458	27	17	0.234
		59.61538462	40.38461538		73.07692308	26.92307692		56.81818	43.18182		61.36364	38.63636	
	Yes	13	13		17	9		19	9		13	15	
		50	50		65.38461538	34.61538462		67.85714	32.14286		46.42857	53.57143	
Radiotherapy	No	8	8	0.584	11	5	0.599	4	9	0.025	6	7	0.543
		50	50		68.75	31.25		30.76923	69.23077		46.15385	53.84615	
	Yes	36	26		44	18		40	19		34	25	
		58.06451613	41.93548387		70.96774194	29.03225806		67.79661	32.20339		57.62712	42.37288	
Anatomic site	Lip	2	2	0.608	2	2	0.277	1	3	0.258	2	2	0.157
		50	50		50	50		25	75		50	50	
	Toungue	32	33		50	15		35	23		38	20	
		49.23076923	50.76923077		76.92307692	23.07692308		60.34483	39.65517		65.51724	34.48276	
	Other	23	15		25	13		25	12		17	20	
		60.52631579	39.47368421		65.78947368	34.21052632		67.56757	32.43243		45.94595	54.05405	

## HOX genes and oral squamous cell carcinoma

**Supplementary Table 3.** Correlation between nuclear or cytoplasmic HOXC13 expression and main clinical features in deep and superficial margin of the lesion

Crosstabs		HOXC13 Deep nuclear expression		P value	HOXC13 Deep cytoplasmic expression		P value	HOXC13 Superficial nuclear expression		P value	HOXC13 Superficial cytoplasmic expression		P value
		≤10	11+		≤10	11+		≤10	11+		≤10	11+	
Grading	G1	11	9	0.892	15	5	0.896	9	10	0.738	13	6	0.67
		55	45		75	25		47.36842	52.63158		68.42105	31.57895	
	G2	34	23	59.64912	40.35088	78.94737	21.05263	55.31915	44.68085	78.7234	21.2766		
		56	44		80	20	46.42857	53.57143	71.42857		28.57143		
Lymphonode metastasis	N0	24	24	0.164	37	11	0.814	23	20	0.679	30	13	0.477
		50	50		77.08333	22.91667		53.48837	46.51163		69.76744	30.23256	
	N+	34	19	64.15094	35.84906	79.24528	20.75472	48	52	78	22		
		56	44		80	20	46.42857	53.57143	71.42857		28.57143		
STAGE	I	5	5	0.408	8	2	0.132	7	4	0.833	8	3	0.553
		50	50		80	20		63.63636	36.36364		72.72727	27.27273	
	II	14	12	53.84615	46.15385	65.38462	34.61538	50	50	63.63636	36.36364		
		50	50		92.30769	7.692308	45.45455	54.54545	81.81818		18.18182		
	III	13	13	68.29268	31.70732	78.04878	21.95122	52.5	47.5	77.5	22.5		
		50	50		92.30769	7.692308	45.45455	54.54545	81.81818		18.18182		
	IV	28	13	64.70588	35.29412	82.35294	17.64706	72.22222	27.77778	77.77778	22.22222		
		26	19		33	12	18	22	29		11		
T	1	11	6	0.357	14	3	0.738	13	5	0.161	14	4	0.974
		57.77778	42.22222		73.33333	26.66667		45	55		72.5	27.5	
	2	8	11	42.10526	57.89474	84.21053	15.78947	38.88889	61.11111	77.77778	22.22222		
		42.10526	57.89474		84.21053	15.78947	38.88889	61.11111	77.77778		22.22222		
	3	8	11	68.18182	31.81818	81.81818	18.18182	57.89474	42.10526	73.68421	26.31579		
		15	7		18	4	11	8	14		5		
Gender	F	17	12	1	23	6	1	16	9	0.168	20	5	0.597
		58.62069	41.37931		79.31034	20.68966		64	36		80	20	
	M	43	31	58.10811	41.89189	78.37838	21.62162	47.14286	52.85714	72.85714	27.14286		
		58.10811	41.89189		78.37838	21.62162	47.14286	52.85714	72.85714		27.14286		
Age	<68	39	16	0.009	45	10	0.473	31	22	0.151	45	8	0.017
		70.90909	29.09091		81.81818	18.18182		58.49057	41.50943		84.90566	15.09434	
	>68	21	27	43.75	56.25	75	25	42.85714	57.14286	61.90476	38.09524		
		43.75	56.25		75	25	42.85714	57.14286	61.90476		38.09524		

## HOX genes and oral squamous cell carcinoma

Chemotherapy	No	27	23	1	37	13	1	24	22	0.806	32	14	0.791
		54	46		74	26		52.17391	47.82609		69.56522	30.43478	
	Yes	14	11		18	7		12	13		16	9	
		56	44		72	28		48	52		64	36	
Radiotherapy	No	7	7	0.771	9	5	0.504	7	6	1	7	6	0.327
		50	50		64.28571	35.71429		53.84615	46.15385		53.84615	46.15385	
	yes	34	27		46	15		29	29		41	17	
		55.7377	44.2623		75.40984	24.59016		50	50		70.68966	29.31034	
Anatomic site	Lip	1	3	0.373	2	2	0.374	2	2	1	1	3	0.071
		25	75		50	50		50	50		25	75	
	Toungue	38	24		50	12		29	28		44	13	
		61.29032	38.70968		80.64516	19.35484		50.87719	49.12281		77.19298	22.80702	
	Other	21	16		29	8		18	16		26	8	
		56.75676	43.24324		78.37838	21.62162		52.94118	47.05882		76.47059	23.52941	

## HOX genes and oral squamous cell carcinoma

**Supplementary Table 4.** Correlation between nuclear or cytoplasmic HOXD13 expression and main clinical features in deep and superficial margin of the lesion

Crosstabs	HOXD13 Deep nuclear expression		P value	HOXD13 Deep cytoplasmic expression		P value	HOXD13 Superficial nuclear expression		P value	HOXD13 Superficial cytoplasmic expression		P value			
	≤15	16+		≤0	1+		≤15	16+		≤0	1+				
Grading	G1	7	1	15	1	0.163	7	8	0.869	13	2	0.216			
		43.75			93.75		6.25			46.66667	53.33333			86.66667	13.33333
	G2	24			37		16			20	20			25	15
		45.28302		69.81132	30.18868		50	50		62.5	37.5				
	G3	10		16	6		13	10		16	7				
		45.45455		72.72727	27.27273		56.52174	43.47826		69.56522	30.43478				
Lymphonode metastasis	N0	20	0.525	32	9	0.633	17	18	0.651	25	10	1			
		48.78049			78.04878		21.95122			48.57143	51.42857			71.42857	28.57143
	N+	20			36		13			23	19			29	13
		40.81633		73.46939	26.53061		54.7619	45.2381		69.04762	30.95238				
STAGE	I	6	0.26	8	1	0.038	5	4	0.962	7	2	0.369			
		66.66667			88.88889		11.11111			55.55556	44.44444			77.77778	22.22222
	II	7			18		4			9	7			13	3
		31.81818			81.81818		18.18182			56.25	43.75			81.25	18.75
	III	13			21		3			9	10			14	5
	54.16667		87.5	12.5		47.36842	52.63158		73.68421	26.31579					
	IV	16		22	15		17	17		20	14				
		43.24324		59.45946	40.54054		50	50		58.82353	41.17647				
T	1	7	0.709	14	2	0.001	8	6	0.477	9	5	0.01			
		43.75			87.5		12.5			57.14286	42.85714			64.28571	35.71429
	2	16			32		8			19	13			27	5
		40			80		20			59.375	40.625			84.375	15.625
	3	10			16		2			8	10			13	5
	55.55556		88.88889	11.11111		44.44444	55.55556		72.22222	27.77778					
	4	9		7	11		5	9		5	9				
		50		38.88889	61.11111		35.71429	64.28571		35.71429	64.28571				
Gender	F	10	0.487	15	11	0.03	10	9	1	10	9	0.09			
		38.46154			57.69231		42.30769			52.63158	47.36842			52.63158	47.36842
	M	32			54		12			30	29			44	15
		48.48485		81.81818	18.18182		50.84746	49.15254		74.57627	25.42373				

### HOX genes and oral squamous cell carcinoma

Age	<68	24	0.304	34	13	0.633	15	26	0.007	26	15	0.327
		51.06383		72.34043			27.65957			36.58537		
	>68	18		35	10		25	12		28	9	
		40		77.77778			22.22222			67.56757		
Chemotherapy	No	18	0.613	35	9	0.027	23	16	0.092	27	12	0.557
		40.90909		79.54545			20.45455			58.97436		
	Yes	11		12	11		6	13		11	8	
		47.82609		52.17391			47.82609			31.57895		
Radiotherapy	No	6	0.75	10	2	0.324	4	6	0.73	9	1	0.141
		50		83.33333			16.66667			40		
	Yes	23		37	18		25	23		29	19	
		41.81818		67.27273			32.72727			52.08333		
Anatomic site	Lip	2	0.383	3	1	0.915	2	2	0.862	3	1	0.915
		50		75			25			50		
	Tongue	27		40	12		22	23		32	13	
		51.92308		76.92308			23.07692			48.88889		
	Other	13		26	10		16	13		19	10	
		36.11111		72.22222			27.77778			55.17241		