

Fig.S1

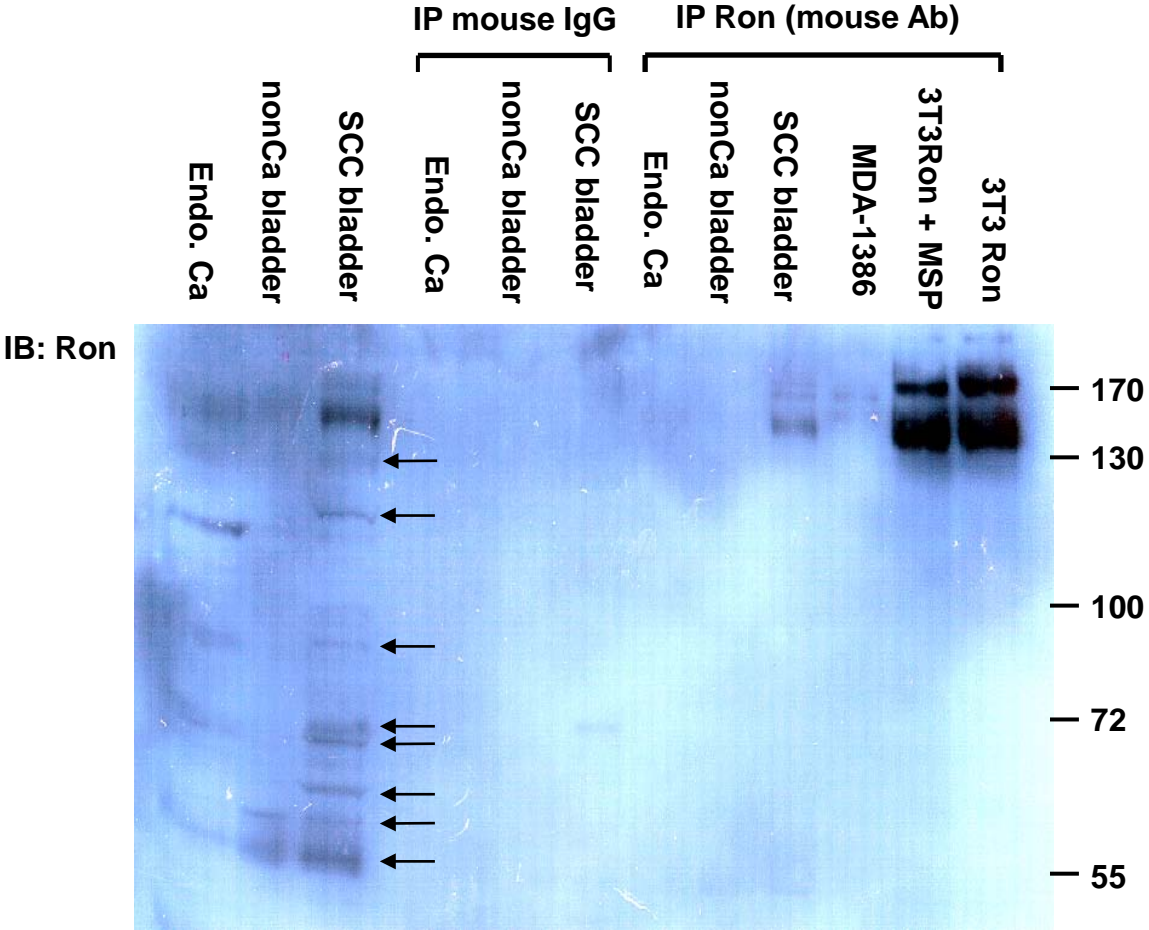


Fig.S2

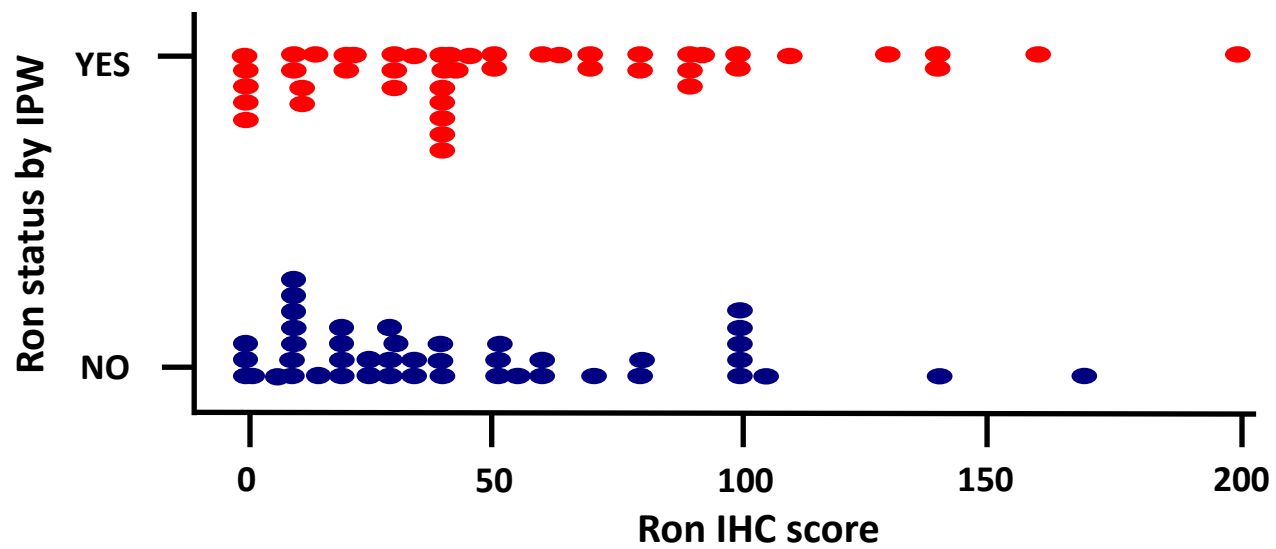


Fig.S3

Print this Page

Sex:M

Specimen Description

Surgical Pathology Report

\*\*\*\*\*Clinical History\*\*\*\*\*  
Patient History: Left lower lip cancer.

\*\*\*\*\*Final Pathologic Diagnosis\*\*\*\*\*

Lateral mucosal margin, biopsy:  
Negative for Carcinoma.

Medial skin, biopsy:  
Negative for Carcinoma.

Lateral skin margin, biopsy:  
Negative for Carcinoma.

Deep, biopsy:  
Negative for Carcinoma.

Medial mucosa, biopsy:  
Negative for Carcinoma.

Submental contents, excision:  
Two Benign Lymph Nodes (0/2).

Left submandibular contents, excision:  
Submandibular Gland, No Pathologic Change.  
Five Benign Lymph Nodes (0/5).

Left lateral neck contents, excision:  
Four Benign Lymph Nodes (0/4).

Left Lower Lip, wide excision:  
Squamous Cell Carcinoma, Invasive see synoptic report.

\*\*\*\*\*Synoptic Report\*\*\*\*\*

SYNOPTIC REPORT FOR CANCER OF THE LIP:  
Specimen type: partial resection of lip  
Tumor site: left lower lip  
Tumor size: 2.1 x 1.8 x 0.6 cm.  
Tumor gross configuration: exophytic  
Histologic type: Squamous Cell Carcinoma  
Tumor grade: 2 of 3, moderately-differentiated  
Lymphatic/vascular invasion: absent  
Perineural invasion: absent  
Tumor extent:

2.27cm<sup>3</sup>

Intramucosal lesion: ulcerated  
Depth of infiltration: 0.6 cm.  
Margins:  
Mucosal margins: Negative for Carcinoma.  
Distance of tumor to nearest margin: 0.3 cm. from lateral edge  
Lymph nodes:  
Total number examined: 11  
Number positive: none  
pTNM: T2 NO Mx.

NO

\*\*\*The above synoptic report complies, in slightly modified form, with the guidelines of the College of American Pathologists and the Association of Directors of Anatomic and Surgical Pathology for the reporting of cancer specimens\*\*\*

\*\*\*\*\*INTRAOPERATIVE CONSULTATION DIAGNOSIS:\*\*\*\*\*

Lateral mucosa margin: (FROZEN SECTION PERFORMED)  
Benign.

Medial skin: (FROZEN SECTION PERFORMED)  
Benign.

Lateral skin margin: (FROZEN SECTION PERFORMED)  
Benign.

Deep: (FROZEN SECTION PERFORMED)  
Benign, salivary gland.

Medial mucosa: (FROZEN SECTION PERFORMED)  
Benign.

Examining pathologist

\*\*\*\*\*SPECIMEN(S) RECEIVED:\*\*\*\*\*

Skin  
Skin  
Skin

**Fig.S4**

**OSU Tissue Procurement Services**

Cinical Data Form (Page 1)

[Redacted] 1

Age		Gender	
45		M Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown <input type="checkbox"/>	
Race	<input type="checkbox"/> African <input type="checkbox"/> Asian <input checked="" type="checkbox"/> Caucasian <input type="checkbox"/> Hispanic <input type="checkbox"/> Other	Height:	Weight:
<input type="checkbox"/> Native American <input type="checkbox"/> Unknown	<input type="checkbox"/> cm 64 in 87 kg 193 lbs		
Date of Death (M/D/Y)	Cause	Autopsy <input type="checkbox"/> yes <input type="checkbox"/> no	

**Obstetrics (if female)**

Menstrual History	Last Menstrual Period (M/D/Y)
<input type="checkbox"/> pre-menopausal <input type="checkbox"/> post-menopausal <input type="checkbox"/> unknown	
Currently Pregnant	No. Pregnancies
<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> unknown	Number of Live Births

**Special Diet**

Status  none  diabetic  fat-restricted  salt-restricted  vegetarian  other  unknown

Notes:

**Smoking History**

Status	When Quit (year)
<input type="checkbox"/> never used <input type="checkbox"/> previous use <input checked="" type="checkbox"/> current <input type="checkbox"/> unknown	
Amount	Duration (years)
packs/day (fractions allowed)	27

**Alcohol Consumption**

Status	When Quit (year)
<input type="checkbox"/> never used <input type="checkbox"/> previous use <input checked="" type="checkbox"/> current <input type="checkbox"/> unknown	
Amount	Duration (years)
42 drinks per week ( 1 drink = 1 glass of wine, 1 ounce of 80-proof liquor, 1 beer)	

**Recreational Drugs**

Status
<input type="checkbox"/> never used <input type="checkbox"/> previous use <input type="checkbox"/> current <input checked="" type="checkbox"/> unknown
Notes:

**OSU Tissue Procurement Services**

Cinical Data Form (Page 2)

[Redacted] 1 0 0 0 0 0

**Medical History**

Diagnosis	Stage		Date	Status				
	(all diseases)	(Cancer)		new	ongoing	p	past	unknown
Left lower lip cancer	T2N0Mx	primary metastatic	10/23/2006	new	ongoing	p	past	unknown
		primary metastatic		new	ongoing		past	unknown
		primary metastatic		new	ongoing		past	unknown
		primary metastatic		new	ongoing		past	unknown
		primary metastatic		new	ongoing		past	unknown
		primary metastatic		new	ongoing		past	unknown
		primary metastatic		new	ongoing		past	unknown

**Surgical History**

for biosample <input type="checkbox"/> yes <input type="checkbox"/> no	procedure	date
	DIRECT LARYNGOSCOPY, BRONCHOSCOPY	12/8/06
anesthetics: General		
for biosample <input type="checkbox"/> yes <input type="checkbox"/> no	procedure	date
	and ESOPHAGOSCOPY	
anesthetics:		

## Fig.S5

### CT SCAN OF THE NECK WITH CONTRAST

CLINICAL HISTORY: Lower lip mass.

DATE OF STUDY: 11/13/06

TECHNIQUE: Contiguous axial CT images through the neck following the administration of intravenous contrast are submitted for review.

FINDINGS: The parotid glands appear grossly symmetric without evidence of focal abnormality. The submandibular glands are unremarkable. No signal abnormality is seen involving the thyroid gland.

No large mass is seen within the neck.

Abnormal soft tissue protrusion is seen associated with the lips measuring approximately 1.6 cm in diameter and may correspond to clinical history of lower lip mass.

Small lymph nodes are seen scattered throughout the neck. No evidence of lymph node enlargement is seen by CT criteria. The airway is patent. The paranasal sinuses and mastoid air cells are largely clear.

#### IMPRESSION:

Soft tissue protrusion measuring approximately 1.6 cm is seen in the region of the lips and may correspond with clinical history of a lower lip mass. No evidence of significant lymphadenopathy is seen within the neck. No large focal mass is seen within the neck.

Fig.S6

[Redacted]-Alive

Follow up (2010)

was seen 8/2010 in the Clinic for follow up for history of lip cancer. History of present illness and review of systems are negative for changes compared to last visit. Nursing documentation reviewed.

Past Medical History	
Diagnosis	Date
• HTN (hypertension), benign	
• Obesity	

Past Surgical History	
Procedure	Date
• Lymph node dissection	12/2006
<i>Laryngoscopy, bronchoscopy, esophagoscopy, superior neck dissec., resect lip cancer</i>	
• Hernia repair	2000

Current outpatient prescriptions			
Medication	Sig	Dispense	Refill
• Amlodipine-Olmesartan (AZOR) 10-40 MG PO TABS	take 1 Tab by mouth daily.		
• Aliskiren Fumarate (TEKTURNA) 150 MG PO TABS	take 1 Tab by mouth daily.		
• aspirin 81 MG PO TABS	take 81 mg by mouth Daily.		
• alprazolam (XANAX) 1 MG PO TABS	take 1 mg by mouth 2 times daily.		
• hydrocodone-acetaminophen (VICODIN) 5-500 MG PO TABS	take by mouth As needed.		
• carvedilol 25 MG PO TABS	take 25 mg by mouth 2 times daily.		

Blood pressure 127/79, pulse 71, temperature 98.2 degrees F (36.8 degrees C), temperature source Oral, height 5' 5" (1.651 m), weight 177 lb (80.287 kg), SpO2 98.00%.

Documented vital signs above from today's visit reviewed. Physical exam including head and neck examination of the oral cavity, oropharynx, larynx, and hypopharynx including indirect mirror exam as well as inspection and palpation of the face, parotid and neck is remarkable for findings consistent with posttreatment changes and negative for new lesions, masses or lymphadenopathy. No evidence of recurrence. Airway is adequate.

Overall I believe patient is doing well and appears clinically free of disease.

Fig.S7

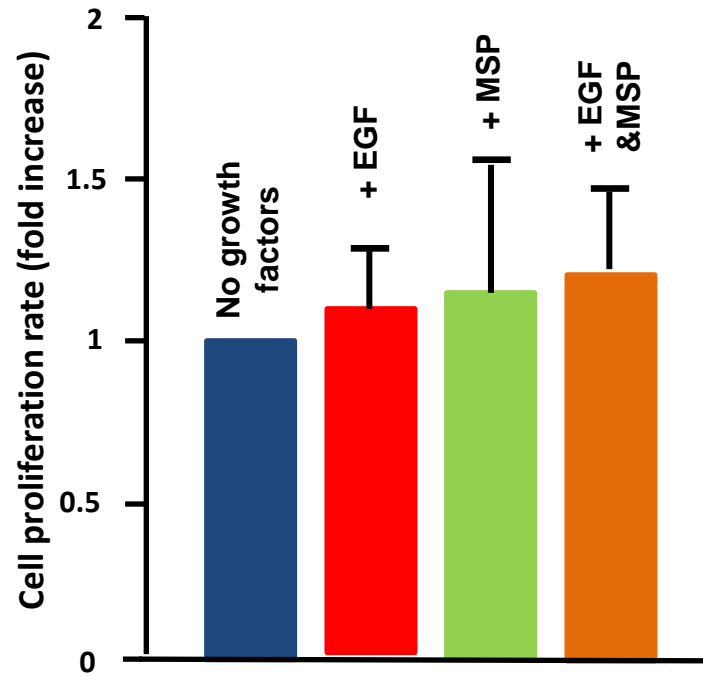
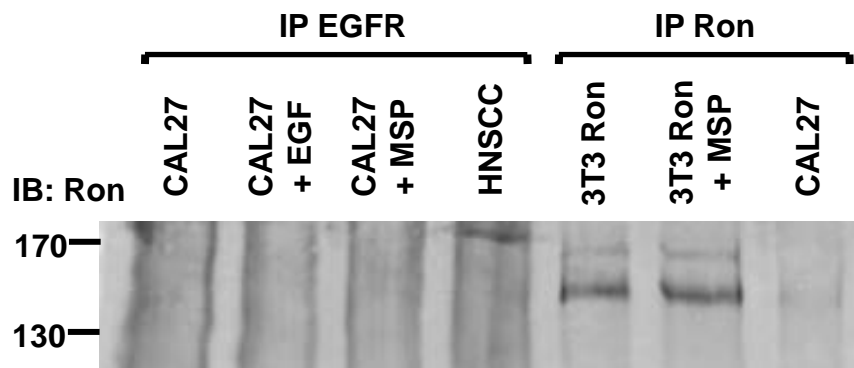
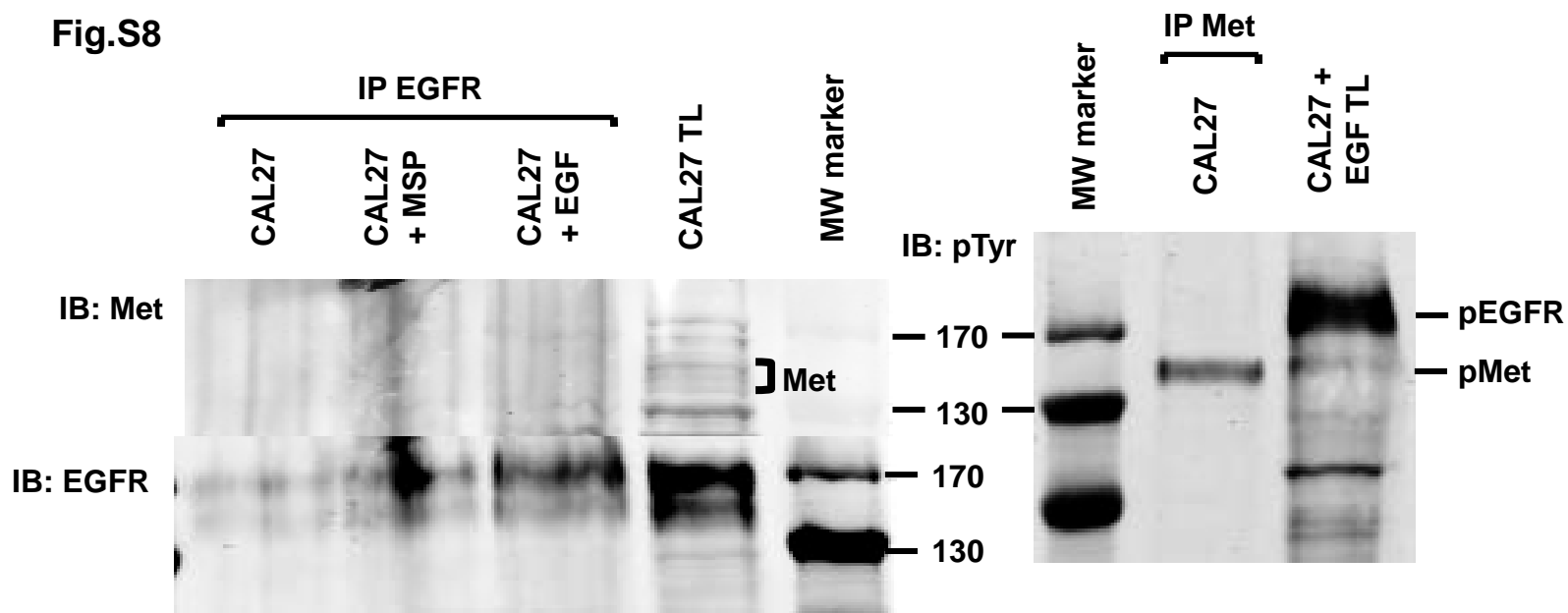


Fig.S8





**Table SI. Clinical and pathological characteristics of the untreated patient cohort**

<b>Characterisitics</b>	<b>No. of patients (%)</b>	<b>Characterisitics</b>	<b>No. of patients (%)</b>
<b>Sex</b>		<b>Tumor site</b>	
Male	99 (78%)	Oropharynx	97 (76.4%)
Female	28 (22%)	Larynx	30 (23.6%)
<b>Race</b>		<b>T stage</b>	
White	117 (92.1%)	Tis/T1/T2	38 (29.9%)
Black	5 (3.9%)	T3/T4	87 (68.5%)
Asian	1 (0.8%)	Tx	2 (1.6%)
Unknown	4 (3.2%)	<b>N stage</b>	
<b>Age</b>		N0/N1	62 (48.8%)
<65	84 (66.1%)	N2/N3	49 (38.6%)
≥65	43 (33.9%)	Nx	16 (12.6%)
<b>Smoking</b>		<b>Differentiation</b>	
Yes	99 (78%)	Well	18 (14.2%)
No	22 (17.3%)	Moderate	77 (60.6%)
Unknown	6 (4.7%)	Poor	30 (23.6%)
<b>Alcohol</b>		Unknown	2 (1.6%)
Yes	82 (64.6%)	<b>Perineural Invasion</b>	
No	32 (25.2%)	Yes	53 (41.7%)
Unknown	13 (10.2%)	No	38 (30%)
<b>Recurrent tumor</b>		Unknown	36 (28.3%)
Yes	11 (8.7%)	<b>Lymphovascular Invasion</b>	
No	113 (89%)	Yes	42 (33.1%)
Unknown	3 (2.3%)	No	68 (53.5%)
		Unknown	17 (13.4%)

**Table SII. Clinical and pathological characteristics of the previously treated patient cohort**

<b>Characterisitics</b>	<b>No. of patients (%)</b>
<b>Sex</b>	
Male	18 (66.7%)
Female	9 (33.3%)
<b>Race</b>	
White	25 (92.6%)
Black	1 (3.7%)
Unknown	1 (3.7%)
<b>Age</b>	
<65	15 (55.6%)
≥65	12 (44.4%)
<b>Smoking</b>	
Yes	20 (74.1%)
No	4 (14.8%)
Unknown	3 (11.1%)
<b>Alcohol</b>	
Yes	11 (40.8%)
No	8 (29.6%)
Unknown	8 (29.6%)
<b>Recurrence</b>	
Yes	14 (51.9%)
No	9 (33.3%)
Unknown	4 (14.8%)

<b>Characterisitics</b>	<b>No. of patients (%)</b>
<b>Tumor site</b>	
Oropharynx	19 (70.4%)
Larynx	8 (29.6%)
<b>T stage</b>	
T2	9 (33.3%)
T3/T4	17 (63%)
Tx	1 (3.7%)
<b>N stage</b>	
N0/N1	15 (55.6%)
N2	8 (29.6%)
Nx	4 (14.8%)
<b>Differentiation</b>	
Well	3 (11.1%)
Moderate	15 (55.6%)
Poor	7 (25.9%)
Unknown	2 (7.4%)
<b>Perineural Invasion</b>	
Yes	13 (48.2%)
No	5 (18.5%)
Unknown	9 (33.3%)
<b>Lymphovascular Invasion</b>	
Yes	7 (25.9%)
No	9 (33.3%)
Unknown	11 (40.8%)