

Supplementary Table 2: Associations between clinicopathological variables and NOTCH pathway components at the mRNA and protein levels (*p*-values).

	Age	Alcohol abuse	Family history	Histological grade	Neck dissection	N Stage	Previous tracheostomy	Postoperative radiation	Gender	Surgery	T Stage
Simple IHC variables^a											
JAGGED1, cytoplasmic	0.210	0.314	0.266	0.354	1.000	0.804	0.769	0.368	0.346	0.423	<u>0.005</u>
JAGGED1, nuclear	0.807	0.479	1.000	0.671	0.499	0.171	0.473	1.000	1.000	1.000	0.881
NOTCH1, cytoplasmic	0.811	0.405	<u>0.035</u>	0.069	1.000	0.590	0.598	1.000	0.139	0.743	0.663
NOTCH1, nuclear	1.000	1.000	0.678	0.726	0.212	0.162	0.582	0.591	0.547	1.000	1.000
NOTCH2	1.000	0.492	<u>0.009</u>	0.153	0.896	0.734	0.385	0.900	0.077	0.051	0.776
NOTCH3	0.193	0.344	0.858	0.140	0.075	0.083	0.157	0.489	0.687	0.503	0.846
Combined IHC variables (Cartesian categories)											
Nuclear and cytoplasmic JAGGED1	0.165	0.274	0.366	0.711	0.750	0.709	0.486	0.094	0.747	0.145	<u>0.026</u>
Nuclear and cytoplasmic NOTCH1	0.964	0.278	0.148	0.056	0.552	0.274	0.405	0.933	0.168	0.517	0.896
NOTCH3 and nuclear JAGGED1	0.372	0.674	0.734	0.245	0.309	0.247	0.086	0.682	0.442	0.846	0.905
NOTCH3 and cytoplasmic JAGGED1	0.447	0.419	0.519	0.156	0.888	0.491	0.228	0.651	0.397	0.624	<u>0.025</u>
NOTCH3 high or cytoplasmic JAGGED1 positive	0.144	1.000	1.000	0.188	0.717	0.189	0.100	0.380	0.201	0.522	<u>0.031</u>
NOTCH2 and cytoplasmic JAGGED1	0.413	0.229	<u>0.005</u>	<u>0.010</u>	0.847	0.707	0.305	0.385	0.698	0.254	<u>0.022</u>
mRNA Variables											
<i>NOTCH1</i>	0.868	0.571	0.588	0.395	0.686	0.540	0.810	0.853	1.000	<u>0.001</u>	0.200
<i>NOTCH2</i>	0.070	0.095	0.375	0.093	0.838	0.319	0.471	0.277	1.000	0.104	<u>0.001</u>
<i>NOTCH3</i>	0.408	0.253	0.151	0.401	0.842	0.626	1.000	0.468	1.000	<u>0.036</u>	0.380
<i>NOTCH4</i> (natural cut off - 33%)	1.000	0.788	0.186	1.000	0.555	1.000	1.000	0.103	1.000	1.000	0.367
<i>NOTCH4</i> (cut-off 50%)	0.505	0.453	0.716	0.821	0.406	0.088	0.138	0.352	0.681	0.488	0.678

Note: *p*-Values for single IHC vs. clinicopathological variables and mRNAs vs. clinicopathological variables were based on Kruskal-Wallis test; *p*-values for combined IHC vs. clinicopathological variables were based on Chi-Square and Fisher's exact test; localization and smoking status are not reported as they did not associate with any marker.

^a Immunoreactive score cut-offs. Significant *p*-values are shown in bold.

Cut-off values: nuclear JAGGED1-low vs. -high (75 percentile); cytoplasmic JAGGED1-negative vs. -positive (0 vs. 1+); NOTCH1-3 50%.