## 1. Details of the PubMed Query:

(("head and neck neoplasms"[MeSH Terms] OR "mouth neoplasms"[MeSH Terms]) AND ("gene expression profiling"[MeSH Terms] OR "oligonucleotide array sequence analysis"[MeSH Terms]) AND "carcinoma, squamous cell"[MeSH Terms]) OR (("oral" [All Fields] AND "cell lines"[All Fields]) AND ("gene expression profiling"[MeSH Terms] OR "oligonucleotide array sequence analysis"[MeSH Terms]) AND "carcinoma, squamous cell"[MeSH Terms]) OR (("head and neck neoplasms"[MeSH Terms] OR "mouth neoplasms"[MeSH Terms]) AND microarray[All Fields]) AND hasabstract[text] AND English[Lang] NOT Review[ptyp] NOT "esophageal"[All Fields]

## 2. An example of complied results for each study.

Data (genes reported) were extracted from tables or text of the selected articles.
GeneIDs conversion was done using the web-based program of DAVID2007-2008 (Database for Annotation Visualization and Integrated Discovery, NIH)*. Reported results for each included study were compiled into the standard format as the following:

| pmid | 17062667 |  |
| :--- | :--- | :--- |
| FAU | Ziober, Amy F |  |
| FC | y |  |
| identifier | off_sym |  |
|  |  | fold |
| genel D | off_sym | 63.68217 |
| 3623 | INHA | 71.4553 |
| 4312 | MMP1 | 25.8173 |
| 10563 | CXCL13 | 9.258157 |
| 4318 | MMP9 | 5.970897 |
| 9645 | MICAL2 | 8.185247 |
| 1290 | COL5A2 | 9.032335 |
| 10578 | GNLY | 15.03796 |
| 4320 | MMP11 | fold... |
| .. | $. . g e n e .$. |  |
|  |  |  |

*Dennis G, Jr., Sherman BT, Hosack DA, Yang J, Gao W, et al. (2003) DAVID: Database for Annotation, Visualization, and Integrated Discovery. Genome Biol 4: P3.

## 3. Distribution of the anatomical-site-specific genes in TvN

The venn diagram below illustrated numbers of genes in each category of the anatomical subsites. The classification of the subsite for each categorie was exclusive; therefore, some changes were made (compared to Table 1 in the manuscript).

## Classification:

o (Oral cavity) = the same 19 papers in Table 1.
pL (pharynx and larynx only) = Gottschlich et al., Jarvinen et al., Schlingemann et al., and Cromer et al.
$\operatorname{mix}=18$ papers, the original mix, op, and oL.

Number of genes reported from tumors of different anatomical subsites


We have selected highly reported genes from three groups: common ( $n=94$ ), oral-specific ( $\mathrm{n}=376$ ), and pharynx- or larynx-specific $(\mathrm{n}=58$ ) in the following tables. There was only 1 gene reported more than once in the pL-specific group; 7 genes reported more than once in the oral-specific group; and 16 genes reported at least in 10 studies in the common group.

Information in detail, including the Entrez GeneID, official gene symbols, number of papers reporting, bounded fold changes, the original values of fold changes, and the original identifiers, were provided.

| GeneID | symbol | fq | bounded <br> fold | sub-sites | original fold changes | original identifiers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3851 | KRT4 | 18 | -0.732 | common | $\begin{aligned} & 0.05,0.29,0.039,0.297,3.605,0.2,0.02,0.0598 \\ & 0.0696,0.0585,8.17698 \mathrm{E}-06, \text { dn, dn, 0.0539,0.11, } \\ & 3.10 \mathrm{E}-06, \text { NA, dn, 4.04,3.76,0.0737,0.0435,0.0231 } \end{aligned}$ | 213240_s_at,214399_s_at,KRT4,Hs.371139, Hs.433845,AA629189,X07695,X07695,213240_s_at, X07695,39657_at,X67683,X07695,X07695,X07695, X07695,X67683,X07695,AA160507,AA160507, X07695_at,X67683_at,X07695 |
| 3852 | KRT5 | 16 | -0.716 | common | $\begin{aligned} & 0.0503,0.29,53.63,0.297,3.605,0.0206,16.7 \\ & 0.0585,8.17698 \mathrm{E}-06, \text { dn,dn, } 0.0539,0.11,3.10 \mathrm{E}-06 \\ & \text { NA,dn, } 0.0737,0.0435,0.0231, \text { up } \end{aligned}$ | 213240_S_AT,214399_S_AT,H300019235,HS.371139, HS.433845,X07695,X07695,X07695,39657_AT,X67683, X07695,X07695,X07695,X07695,X67683,X07695, X07695_AT,X67683_AT,X07695,KRT5 |
| 5328 | PLAU | 15 | 0.476 | common | 4.364,155.417,6.703,8.3,9.6,8.07,7.0148, up,6.964,up,107.586,6.28,21.112,up,up,9.39 | $\begin{aligned} & \text { 205479_s_at,H200006377,PLAU,NM_002658,X02419, } \\ & \text { 211668_s_at,205479_s_at,37310_at,37310_at,Hs.77274, } \\ & \text { X02419,X02419,X02419,PLAU,X02419,X02419_rna1_s_at } \end{aligned}$ |
| 2335 | FN1 | 14 | 0.448 | common | 2.952,2.712,2.702,2.697,8.8785,7.076,6.493, 7.076,6.493,7.619,2.361,3.33,5.5,6.52,5.147, 5.138,4.94,4.239,up,up,11.313,up,10.19, 181.019,78.79,NA,20.13,51.17 | ```211719_x_at,212464_s_at,216442_x_at,210495_x_at,FN1, FN1,FN1,FN1,FN1,FN1,Hs.203717,R62612,M10905, 212464_s_at,211719_x_at,210495_x_at,216442_x_at, 214701_s_at,31719_at,31720_s_at,31719_at,X02761, X02761,X02761,M10905,X02761,X02761_s_at,X02761``` |
| 4118 | MAL | 14 | -0.961 | common | $\begin{aligned} & \text { 0.0512,0.16,0.24,0.019,0.0139,0.02,0.0394, } \\ & 0.0217,4.6256 \mathrm{E}-05, \mathrm{dn}, 0.04879 \\ & 2.08 \mathrm{E}-07,0.0474, \mathrm{dn} \end{aligned}$ | $\begin{aligned} & \text { 204777_s_at,NM_002371,AA227594,X76220,_X76220, } \\ & \text { 38051_at,204777_s_at,NM_002371,38051_at,X76223, } \\ & \text { X76220,X76220,X76223_s_at,MAL } \end{aligned}$ |


| 4312 | MMP1 | 13 | 1 | common | $\begin{aligned} & 57.615,1573995.516,71.455,13.01,45 \\ & 87.6,305.018,25.99, \text { up, } 14008.53,35.62 \\ & 1448.154,176 \end{aligned}$ | 204475_at,H200007011,MMP1,MMP1,M13509,M13509, <br> 204475_at,38428_at,Hs.83169,M13509,M13509, <br> M13509, X54925 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1278 | COL1A2 | 13 | 0.395 | common | $\begin{aligned} & 4.683,2.288,9.258,5.122,2.675,1.935,4.036, \\ & 10.6,6.605,2.626,8.574,9.849, \text { up }, 45.241, \\ & 87.83,42.22,26.85,7.85 \end{aligned}$ | 202404_s_at,202403_s_at,COL1A2,COL1A2,Hs.489142, W93067,N30461,J03464,202404_s_at,202403_s_at,32305_at, 32306_g_at,Z74616,J03464,J03464,J03464,Z74616_s_at, Z74616 |
| 6678 | SPARC | 13 | 0.425 | common | $\begin{aligned} & 2.787,8.1511,4.509,2.394,6.7,3.128, \text { up,up, } \\ & 26.26,8.574, \text { up, 12.9,26.2 } \end{aligned}$ | $\begin{aligned} & \text { 200665_s_at,H200011770,SPARC,Hs.111779,J03040, } \\ & \text { 200665_s_at,671_at,_J03040,J03040,J03040,J03040, } \\ & \text { J03040_at,J03040 } \end{aligned}$ |
| 10631 | POSTN | 12 | 0.612 | common | $\begin{aligned} & 5.386,396.726,16.734,64.44,8.6,4.76,6.2, \\ & 17.21,22.35,48.502, \text { up,36.019 } \end{aligned}$ | $\begin{aligned} & \text { 210809_s_at,H300000923,POSTN,Hs.136348,D13666, } \\ & \text { W35228,D13666,1451_s_at,210809_s_at,D13666, } \\ & \text { POSTN,D13666_s_at } \end{aligned}$ |
| 2537 | IFI6 | 12 | 0.334 | common | $\begin{aligned} & 4.661,21.645,3.431,2.479,4.49,6,4.967, \\ & 6.43,13.508, \mathrm{NA}, 1.78,76.4 \end{aligned}$ | 204415_at,H200016555,IFI6,Hs.523847,AA448478, U22970,204415_at,NM_022873,U22970,X02492, AA432030,U22970_rna1_s_at |
| 7053 | TGM3 | 12 | -0.867 | common | $\begin{aligned} & \text { 0.172,0.027,0.0609,0.04,0.028,0.0372, } \\ & 1.6354 \mathrm{E}-05, \mathrm{dn}, 0.095,7.01 \mathrm{E}-05, \mathrm{dn}, \mathrm{dn} \end{aligned}$ | 206004_at,L10386,L10386,32868_at,206004_at, NM_003245,32868_at,L10386,L10386,L10386, TGM3,Hs. 2022 |
| 6696 | SPP1 | 11 | 0.789 | common | 3.234,up,2.11,16,5.79,36.1,60.572,up,up, <br> 55.715,64,205.81,2352.53,NA | 209875_s_at,NM_000582,AA775616,AF052124,R97904, AF052124,209875_s_at,34342_s_at,2092_s_at, 2092_s_at,34342_s_at,AF052124,AF052124,J04765 |


| 3860 | KRT13 | 11 | -0.524 | common | $\begin{aligned} & 0.085,0.057,0.43,0.169,0.128,0.005, \mathrm{dn}, \\ & 0.14,0.041, \mathrm{NA}, 0.278 \end{aligned}$ | 207935_s_at,KRT13,W60057,X14640,207935_s_at, 36883_at,X52426,X14640,X14640,X52426,X52426_s_at |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2012 | EMP1 | 11 | -0.482 | common | $\begin{aligned} & 0.266,0.276,0.484, \mathrm{dn}, 0.108,0.0628,0.185, \\ & 0.151,0.111,0.0669, \mathrm{dn}, 0.0118,0.00515 \\ & 0.0206,0.126,0.125,0.118 \end{aligned}$ | 201325_s_at,201324_at,213895_at,NM_001423, Y07909,Y07909,213895_at,201324_at,201325_s_at, 1321_s_at,Y07909,U43916,Y07909,U43916, Y07909_at,U43916_s_at,Y07909 |
| 1893 | ECM1 | 11 | -0.569 | common | $\begin{aligned} & 0.307, \mathrm{dn}, 0.116,0.1098,0.07,0.107, \mathrm{dn}, 0.053 \\ & 0.047, \mathrm{dn}, 0.092 \end{aligned}$ | $\begin{aligned} & \text { 209365_s_at,NM_004425,U68186,U68186,37600_at, } \\ & \text { 209365_s_at,U65932,U68186,U68186,Hs.81071, } \\ & \text { U65932_at } \end{aligned}$ |
| 3371 | TNC | 10 | 0.434 | common | $\begin{aligned} & 3.493,110.81,6.49,5.5,11.6,7.66,11.35,6.84, \\ & \text { NA, 14.09 } \end{aligned}$ | 201645_at,H200009494,TNC,T77595,X78565, 201645_at,X78565,_X78565,X78565,X78565_at |
| 362 | AQP5 | 2 | -0.321 | pL | 0.368,0.142 | Hs.298023,U46569 |
| 3858 | KRT10 | 3 | -0.873 | 0 | dn, 0.11,NA | KRT10,X14487,M19156 |
| 5178 | PEG3 | 2 | -0.451 | 0 | 0.32,0.116 | 209242_at,AL042588 |
| 8406 | SRPX | 2 | -0.196 | 0 | 0.4258,0.84 | 204955_at,AA448569 |
| 56994 | CHPT1 | 2 | -0.227 | 0 | 0.4482,0.74 | 221675_s_at,T49355 |
| 1496 | CTNNA2 | 2 | -0.404 | 0 | 1.415,dn | H45976,M94151 |
| 1634 | DCN | 2 | -0.237 | 0 | $3.3135, \mathrm{dn}$ | DCN,M14219 |
| 7143 | TNR | 2 | 0 | 0 | up,dn | X98085,X98085 |

