

Table S6: Gene Expression Database confirmation of differentially expressed genes

top 10 in:	Gene	Interpretation	most relevant details	most relevant references (PMID)
Ect	<i>Esrp1</i>	Epithelial	many/most epithelia	19328061, 23233200, 6371508, 16033648
	<i>Gabrp</i>	NA	adult alveolar epithelial type II cells, breast ductal epithelia	15184050, 16187283
	<i>Krt14</i>	Epithelial	E9.5+ epidermis, epidermal stem cells	10084315, 24071939, 17631058, 7525178
	<i>Gjb2</i>	Epithelial	E14.5 skin, oral epithelium	14681479
	<i>Krt5</i>	Epithelial	E9.5 epidermis, E14.5 oral, nasal epithelia	7525178, 21267068
	<i>Perp</i>	Epithelial	E14.5 skin, oral epithelium	21267068
	<i>Dsp</i>	Epithelial	E9.5 oral endoderm, E13.5 oral epithelium, E14.5 skin, oral epithelium	7576135, 16937369, 21267068
	<i>Cldn6</i>	Epithelial	E12.5 epidermis, oral, olfactory epithelium	17182288, 17075866
	<i>Fermt1</i>	Epithelial	E13.5 oral epithelium, E14.5 also skin, nares	16876785, 21267068
	<i>Tacstd2</i>	Epithelial	E14.5 skin, oral epithelium	21267068
Mes	<i>Gpr50</i>	NA	no annotations outside brain and kidney	
	<i>Aspn</i>	connective tissue	tongue, mandibular and maxillary process; connective tissue primordia	11152695
	<i>Prrx1</i>	Mesenchyme	olfactory placode, postmigratory mesenchyme of facial prominences	20059953, 876178
	<i>Sult1e1</i>	OE	E14.5 olfactory epithelium	14681479
	<i>Aldh1a2</i>	NA	E10.5 1st arch, olfactory pit, E11.5 proximal in maxilla	9106168, 11025231, 26238476
	<i>Frzb</i>	Mesenchyme	E11.5 tongue, Maxillia and Mandible primordia, E12.5 face mesenchyme	10415363, 9671940
	<i>Tnfrsf6</i>	OE?	E15 mandible, nasal cavity	8106408
	<i>Hbb-bh1</i>	blood	yolk sac, blood	10529424
	<i>Ebf1</i>	OE	E13.5+ brain, retina, olfactory epithelium	8756438, 10842061
	<i>Ogn</i>	Mesenchyme	E14.5 bone primordia	21267068
Fn	<i>Sult1e1</i>	OE	E14.5 olfactory epithelium	14681479
	<i>Ugt2a1</i>	OE	E14.5 olfactory epithelium	14681479
	<i>Cxcl13</i>	NA	E11.5 diencephalon	16602821
	<i>Otx2</i>	OE	E10.5 oral & olfactory epithelia	7588062, 8887325
	<i>Tfap2b</i>	OE	E10.5 1st arch, E11.5 maxillary process, E14.5 nasal cavity	20059953, 21267068
	<i>Fezf1</i>	OE	E14.5 internal and external nares, olfactory epithelium	19222525, 21267068
	<i>Fstl5</i>	NA	in adult olfactory bulb. no annotation in face or embryo	24588779
	<i>Aldh1a3</i>	olfactory pit	E10.5 olfactory pit, E11.5 olfactory epithelium	10906479, 19700620, 11044606
	<i>Acsf4</i>	OE	E14.5 olfactory epithelium	21267068, 14681479
	<i>Cldn6</i>	OE	E12.5 epidermis, oral, olfactory epithelium	17182288, 17075866
Mx	<i>Actc1</i>	Mx & Md	E11.5, E12.5 mesenchyme near the juncture of the maxillary process and the mandibular arch, mastication muscles, tongue	1794310, 8404540
	<i>Tbx15</i>	Mx	E10.5 1st arch, E11.5 maxillary process	9693034, 20059953, 21267068
	<i>Dlx1</i>	Mx	E10.5 1st arch maxillary component	11180832
	<i>Tbx18</i>	Mx	E11.5 maxillary process	20059953
	<i>Stmn2</i>	Mx vibrissae?	E10.5 nasal pit, E11.5 olfactory epithelium, E14.5 also tongue, vibrissae	10804175, 21267068
	<i>Lhx8</i>	Mx & Md	oral/odontogenic mesenchyme E9.5 maxillary ectoderm, E10.5 1st arch maxillary component, E14.5 tooth buds	9570771, 14681479
	<i>Cyp26c1</i>	Mx		12915310
	<i>Lhx6</i>	Mx & Md	oral/odontogenic mesenchyme	9570771, 14681479
	<i>Nefm</i>	Mx	E10.5-11 trigeminal ganglia and nerve (maxillary division)	18246078
	<i>Sim2</i>	Mx and/or Md?	E10.5 branchial arch	12466854
Md	<i>Gpr50</i>	NA	no annotations outside brain and kidney	
	<i>Actc1</i>	Mx & Md	E11.5, E12.5 mesenchyme near the juncture of the maxillary process and the mandibular arch, mastication muscles, tongue	1794310, 8404540
	<i>Myh3</i>	tongue muscle	E11.5 facial muscle, E14.5 tongue muscle	9808779, 21267068
	<i>Acta2</i>	arteries	E10.5 yolk sac, arteries	11807029
	<i>Zcchc5</i>	tongue muscle	E14.5 tongue muscles	21267068
	<i>Dlx1as</i>	NA	subventricular zone	9415433
	<i>Tnnc1</i>	tongue muscle	E11-13 tongue muscles	10669094
	<i>Sfrp4</i>	Mx & Md?	E14.5 tongue, lower jaw, salivary gland, tooth, palatal shelf, etc	14681479
	<i>Mab2111</i>	OE, Md, Mx	E10.5 Md, E12.5 olfactory epithelium, maxillary process	10349626, 24780627
	<i>Pitx1</i>	tongue/teeth	epithelia of the tongue, palate, teeth, olfactory system, Rathke's pouch	9226452

NA: no information discovered relevant to which prominence or tissue layer in the developing face

Expression patterns for the top 10 (by fold change) genes enriched in Mes, Ect, FnP, MxP and MdP (Tables S2-4) were searched in the Gene Expression Database (<http://www.informatics.jax.org/expression.shtml>). Genes with limited information in GXD were also searched through PubMed. The most relevant references, anatomical expression details and our interpretation of how that supports the microarray data are shown. Note that the FnP mesenchyme included the invaginating olfactory epithelium (OE).