

Supplementary Table 1. Identity and features of differentially expressed genes in immature and differentiated cells of the ultimobranchial lineage

A. *Calca_pos* vs *Calca_neg* Ubb cells

Gene	Protein	Development	Endocrine	Function(s)
<i>Nnat</i>	Neuronatin	neural fate, brain	pituitary, pancreatic beta-cells	calcium regulation
<i>Mest</i>	Mesoderm-specific transcript homolog	mesoderm	adrenal	EMT
<i>Foxa2</i>	Forkhead box A	endoderm, lung, liver, pancreas	thyroid C cells, pancreas	pioneer transcription factor
<i>Btg2</i>	B-cell translocation gene 2	neurogenesis	pancreatic beta-cells	cell cycle
<i>Cplx2</i>	Complexin 2 (synaphin)	-	neuroendocrine	exocytosis
<i>Ascl1</i>	Achaete-scute homolog 1 (MASH1)	neurogenesis	adrenal, thyroid C cells, MTC	pioneer transcription factor
<i>Cdc25b</i>	Cdc25 isoform	early embryogenesis	MTC	cell cycle
<i>Socs2</i>	Suppressor of cytokine signaling 2	neuronal differentiation	pancreatic beta-cells	JAK/STAT signaling
<i>Hair1</i>	Hoxa adjacent long noncoding RNA 1	ESC lineage differentiation	-	RA regulation
<i>Sst</i>	Somatostatin	neuroendocrine differentiation	neuroendocrine, MTC	peptide hormone
<i>Krt7</i>	Keratin 7	epithelial differentiation	neuroendocrine	cytoskeleton
<i>Prox1</i>	Prospero homeobox 1	cell fate determination	neuroendocrine, thyroid C cells, MTC	EMT, secretory pathway

B. *Calca_neg* vs *Calca_pos* Ubb cells

Gene	Protein	Function(s)
<i>Hmcn1</i>	Hemicentin 1 (HMCN1)	ECM, basement membrane organization, cell anchorage
<i>Plagl1</i>	PLAGL1 (ZAC-1)	transcription factor, ECM regulation, anti-proliferative
<i>Hs6s2</i>	Heparan sulfate 6 sulfotransferase 2	ECM regulation, morphogen/growth factor activation
<i>Rbm12b2</i>	RNA binding motif protein 12	post-transcriptional regulation
<i>Smtnl2</i>	Smoothelin-like 2	apical actin turnover
<i>Dscc1</i>	DNA replication and sister chromatid cohesion 1	DNA replication

List of genes in A and B relates to data presented in Supplementary figures 10a and b, respectively.

Based on scRNAseq analysis of E12.5 cells confined to Ubb clusters 4, 6 and 8

Abbr: Ubb ultimobranchial body, MTC medullary thyroid carcinoma, EMT epithelial-mesenchymal transition, ECM extracellular matrix