Supplementary Table 1. Signature genes of sweat gland myoepithelial cells and luminal cells

A Signature genes of sweat gland myoepithelial cells

Functional annotation	Examples of genes upregulated in sweat gland myoepithelial cells (2x and up, FDR<0.2)
Smooth muscle contraction	Acta2, Actg2,Adcy9, Atp2a2, Cacna1c, Cacnb1, Cacnb4, Cald1, Cyp4a31, Cyp4a10, Itpr1, Kcnmb1, Mrvi1, Myh11, Myl9, Mylk, Prkca, Prkacb, Tpm1, Tpm2
Actin cytoskeleton Organization and regulation	Acta1, Acta2, Cald1, Cfl2, Cnn1, Coro1a, Dst, Ehd2, F2r, Fgf7, Fgfr2, Fina, Fhod3, Flnc, Itgav, Maea, Mtss1, Myl6, Myl9, Mylk, Myh11, Myo7a, Nckap1l, Palld, Pdgfa, Pdgfd, Pdlim3, Pdlim7, Pik3r1, Rras, Srf, Sorbs1, Svil, Tpm1, Tpm2, Vcl
Cell adhesion ECM Basement membrane	Cd8b1, Cd86, Cdh2, *Col4a5, *Dag1, *Egfl6, Figf, Flnc, Flna, H2-D1, H2-Aa, H2-Ab1, Itgav, *Lama1, *Lama3, *Lama5, *Lamc2, Myl9, Mylk, Ncam1, *Papln, Pik3r1, Pdgfa, Pdgfd, Prkca, Ptprc, Reln, Vcl, *Vwa1, Zyx
Ion transport	Atp13a2, ^Atp2a2, ^Cacna1c, ^Cacnb1, ^Cacnb4, Clcn1, Clic4, Coro1a, Cnga2, F2r, ^Itpr1, “Kcnip3, Kctd4, “Kcnk13, Kcnn2, Kcnmb1, “Kcnab1, “Kcnq5, “Scn2a1, Scn8a, “Slc12a5, Slc16a7, “Slc24a3, Steap4, Tes, ^Trpc4, ^Trpv2
Gland development	Dag1, Fgf7, Fgfr2, Irs1, Lama1, Lama5, Mdk, Nog, Nr3c1, Sfrp1, Sema3c, Src, Tes, Tgfbr1, Tnfrsf11a
Wnt Signaling pathway	Crebbp, Dkk3, Fzd2, Fzd3, Mitf, Nkd1, Ndp, Nxn, Prkca, Prkacb, Sfrp1, Sox4, Tgfb1i1, Ube2b, Vangl1, Wnt6
MAPK signaling pathway	Cacna1c, Cacnb1, Cacnb4, Dusp10, Fgf7, Fgfr2, Flnc, Flna, Map4k3, Mef2c, Ntf3, Pdgfa, Prkca, Prkacb, Srf, Tgfbr1

*basement membrane
“Potassium transport
^Calcium transport

B Signature genes of sweat gland Luminal cells

Functional annotation	Examples of genes upregulated in sweat gland luminal cells (2x and up, FDR<0.2)
Ion transport	^Atp2a3, ^Atp2c1, ^Atp2c2, *Atp6v0a4, *Atp6v0c, *Atp6v0d1, *Atp6v1e1, *Atp6v1f, *Atp6v1g1, Ano1, Ano10, Clcn5, Gabrr2, Grid2, ^Itpr3, ^Mcoln1, “Kcnk1, “Kcnj11, “Kcnmb2, “Kcna1, P2rx4, “Pkm2, “Pklr, Slc22a18, Slc23a1, ^Slc24a6, Slc25a28, Slc5a2, Slc6a8, Slc9a1, Tcn2, ^Tmem37, “Tmem38b
Protein transport	Arl6ip1, Cd27, Ap1m2, Chmp4c, Chmp6, Dusp18, Gabarapl2, Gm9803, Lmf1, Necap1, Rab15, Rab17, Rab3ip, Rab3a, Rab4a, Rabep2, Selenbp1, Stx1b, Syngr1, Vps25
Lysosome	Atp6v0a4, Atp6v0c, Atp6v0d1, Gm2a, Ap1m2, Ctsd, Entpd4, Fuca1, Galns, Galcm Neu1, Psap, Scarb2, Cln3
Glycolysis/Gluconeogenesis	Aldoc, Eno1, Eno3, Gapdh, Hk1, Pfkl, Pfkp, Pgm2, Pgk1, Pgam1, Pkm2, Pklr, Tpi1
Fructose and Mannose metabolism	Aldoc, Hk1, Pfkl, Pfkp, Pmm1, Tpi1
Pyruvate metabolism	Acyp1, Grhpr, Pkm2, Me1, Pcx, Pklr
Galatose metabolism	Hk1, Pfkl, Pfkp, Pgm2
Amino sugar and nucleotide sugar metabolism	Smas, Cyb5r3, Hk1, Pgm2, Pmm1
Glycan degradation	Fuca1, Fuca2, Neu1
Oxidative phosphorylation	Atp6v0a4, Atp6v0c, Atp6v0d1, Atp6v1e1, Atp6v1f, Atp6v1g1, Ndufb7, Lhpp, Cox7a1, Cox17
Type II Diabetes Mellitus	Hk1, Mapk3, Kcnj11, Pkm2, Pklr

“Potassium transport
^Calcium transport
*Hydrogen transport

Supplementary Table 2. Similarities shared between sweat gland and mammary gland

A Upregulated genes shared in myoepithelial cell of sweat gland and mammary gland

Functional annotation	Examples of genes upregulated in Myo (compared to Lum) in both sweat gland and mammary gland
Cell adhesion (Basement membrane)	Actn1, Cav1, Cav3, Col4a1, Col4a2, Col4a6, Col5a2, Col7a1, Col17a1, Ccnd2, Egfr, Egfl6, Flna, Grlf1, Itga4, Itga6, Itga9, Ilk, Lamb1-1, Lama1, Lama3, Lama5, Lamb3, Lamc1, Myl9, Mylk, Nid1, Parvb, Pxn, Pik3ca, Pdgfa, Pdgfc, Pdgfd, Bcl2, Reln, Sparc, Tln1, Vav3, Vcl, Vwa1
Smooth muscle contraction	Acta2, Actg2, Adora2b, Adcy3, Adcy7, Avpr1a, Cald1, Gucy1b3, Kcnma1, Kcnmb2, Mrvi1, Myh11, Myl6, Myl9, Mylk, Npr2, Ramp1, Ramp3
Regulation of actin cytoskeleton	Actn1, F2r, Cfl2, Cyfip2, Diap2, Egfr, Fgf13, Fgf3, Fgf7, Itga4, Itga6, Itga9, Myl9, Mylk. Pxn, Pik3ca, Pip4k2a, Pdgfa, Pdgfc, Pdgfd, Kras, Vav3, Vcl
TGFb signaling pathway	Smad1, Acvr1, Bmp6, Bmp7, Bmpr2, Fst, Id4, Tgfb3, Tgfbr1
Wnt pathway	Dkk3, Fzd3, Fzd7, Fzd8, Nxn, Sostdc1, Sfrp1, Tcf7l1, Tcf7, Tgfb1i1, Wnt10a, Wnt3, Wnt9b
Hedgehog pathway	Gli1, Gli2, Bmp6, Bmp7, Gas1, Wnt10a, Wnt3, Wnt9b
Calcium signaling pathway	Atp2a2, Adora2b, Adcy3, Adcy7, Avpr1a, Bst1, Camk4, F2r, Cysltr1, Egfr, Mylk, Ryr2, Camk2g, Slc25a4, Slc8a1, Sphk1, Trpc1
JAK-STAT pathway	Clcf1, Ccnd2, Ifna1, Ifna12, Ifna5, Ifna6, Ifna7, Ifna9, Ifnab, Il10, Il6, Il7, Lifr, Osmr, Pik3ca, Il2rg, Spry1, Spred1, Socs3, Tpo
Pathways in cancer	Gli1, Gli2, Col4a1, Col4a2, Col4a6, Egfr, Fgf13, Fgf3, Fgf7, Fzd3, Fzd7, Fzd8, Itga6, Il6, Lamb1-1, Lama1, Lama3, Lama5, Lamb3, Lamc1, Mmp2, Pik3ca, Pdgfa, Bcl2, Kras, Tcf7l1, Tcf7, Tgfb3, Tgfbr1, Wnt10a, Wnt3, Wnt9b

*Basement membrane

B Upregulated genes shared in luminal cell of sweat gland and mammary gland

Functional annotation	Examples of genes upregulated in Lum (compared to Myo) in both sweat gland and mammary gland
Cell adhesion (Tight junction)	CD80, Cldn1, Cldn10a, Cldn3, Cldn4, Cldn7, H2-L, H2-D1, H2-K1, H2-Q10, Itga4, Ocln, Sele, Cask, Crb3, Myh14, Pard6b, Tjp3, Evpl, Shroom3
Gland development	Bcl2l11, Cited2, Elf5, Notch1, Sox9, Tbx3, Ccnd1, Ddr1, Eif2ak3, Fgf10, Foxa1, Foxc1, Hes1, Otp, Prlr, Pml, Rln1, Stat5a, Ntn1, Tcfcp2l1
Notch pathway	Notch1, Notch3, Notch4, Rfng, Hes1, Psen1
Carbohydrate metabolism	Dera, Pgls, Fbp2, G6pd2, G6pdx, H6pd, Pgd, Rbks, Taldo1, Tkt, Bpgm, Aldoart2, Dcxr, Eno3, Fbp2, Mdh1, Pck1
Ion transport	Atp2c2, Atp6v0b, Kcnip4, Kcnip1, Lasp1, Cacna2d2, Cacng8, Catsper1, Clcn3, Clcn5, Kcnk1, Kcnk5, Kcnn4, Kcne3, Kcnd3, Kcnab3, Scnn1a, Scnn1b, Slc12a1, Slc12a2, Slc22a23, Slc31a1, Slc4a8, Slc5a1, Slco1a5

*Tight junction