Supplemental Table S1. Quality and quantity of purified RNA, and factors which might impact this yield. The LCM sections were 10 µm thick. The Tapestation quality control was performed in our laboratory prior to shipment to ScilifeLab, where a second quality control took place. The library prep kit SMARTer Total Stranded RNA-seq, Pico input mammalian – V3 recommends a DV200 > 50% and input amount > 10 ng, and all samples adhered to these recommendations.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **mean** | **median** | **min** | **max** |
| Days between harvest and sectioning (n) | 8 | 8 | 6 | 9 |
| Extracted area (mm2) | 3.62 | 3.52 | 1.68 | 6.05 |
| Tapestation RIN\* Value | 6.46 | 6.40 | 5.20 | 7.20 |
| SciLifeLab RIN\* Value | 5.02 | 5.60 | 2.30 | 6.60 |
| DV200 (%) | 93.85 | 95.45 | 85.20 | 96.50 |
| Tapestation RNA concentration (ng/µl) | 4.03 | 3.37 | 1.80 | 8.40 |
| SciLifeLab RNA concentration (ng/µl) | 6.67 | 6.22 | 1.86 | 14.29 |
| SciLifeLab RNA amount (ng) | 57.86 | 55.97 | 16.71 | 128.58 |

\*RIN = RNA integrity number.

Supplemental Table S2. Number of marker genes selected for each cell type. SMC are synonymous with both foveolar cells and pit cells.

|  |  |
| --- | --- |
| **Cell type** | **Marker genes (n)** |
| B cells | 5 |
| Basophils | 12 |
| Crypt cells | 4 |
| Dendritic cells | 14 |
| Endothelial cells | 43 |
| Enterochromaffin cells | 2 |
| Enteroendocrine cells | 10 |
| Eosinophils | 2 |
| Fibroblasts | 14 |
| SMC | 3 |
| Gastric chief cells | 3 |
| Macrophages | 11 |
| Mast cells | 38 |
| Metaplastic cells | 2 |
| Monocytes | 3 |
| Mucous neck cells | 1 |
| Natural killer T cells | 5 |
| Neutrophils | 3 |
| Parietal cells | 2 |
| Pericytes | 2 |
| Plasma cells | 12 |
| Plasmacytoid dendritic cells | 4 |
| Proliferating Tff2 positive cells | 3 |
| Stromal cells | 1 |
| T cells | 5 |
| Tuft cells | 6 |

Supplemental Table S3. List of marker genes selected for each cell type. SMC are synonymous with both foveolar cells and pit cells.

|  |  |
| --- | --- |
| **Cell\_Type** | **GeneSymbol** |
| B cells | Tnfrsf13c |
| B cells | Vpreb3 |
| B cells | Vpreb1 |
| B cells | Fcer2a |
| B cells | Swap70 |
| Basophils | Mrgpra6 |
| Basophils | Alox8 |
| Basophils | Defb40 |
| Basophils | Rnf39 |
| Basophils | Slc26a3 |
| Basophils | Slc26a8 |
| Basophils | Sncaip |
| Basophils | St6galnac5 |
| Basophils | Tulp3 |
| Basophils | Tec |
| Basophils | Unc93a |
| Basophils | Wrn |
| Crypt cells | Tert |
| Crypt cells | Smoc2 |
| Crypt cells | Tnfrsf19 |
| Crypt cells | Slc12a2 |
| Dendritic cells | Relb |
| Dendritic cells | Xcr1 |
| Dendritic cells | Ryr1 |
| Dendritic cells | Sema4a |
| Dendritic cells | Slamf8 |
| Dendritic cells | Rab30 |
| Dendritic cells | Sept6 |
| Dendritic cells | Zbtb46 |
| Dendritic cells | Pdcd1lg2 |
| Dendritic cells | Sirpa |
| Dendritic cells | Rnase6 |
| Dendritic cells | S100b |
| Dendritic cells | Slurp1 |
| Dendritic cells | Serpinb9 |
| Endothelial cells | Vwf |
| Endothelial cells | Thbd |
| Endothelial cells | Slco1c1 |
| Endothelial cells | Tmem100 |
| Endothelial cells | Rasip1 |
| Endothelial cells | Tie1 |
| Endothelial cells | Rprm |
| Endothelial cells | Exoc3l |
| Endothelial cells | Robo4 |
| Endothelial cells | Scarf1 |
| Endothelial cells | Sox18 |
| Endothelial cells | Sox7 |
| Endothelial cells | Spns2 |
| Endothelial cells | Thsd1 |
| Endothelial cells | Rnase1 |
| Endothelial cells | Rbp7 |
| Endothelial cells | Tcf15 |
| Endothelial cells | Ramp3 |
| Endothelial cells | Vegfc |
| Endothelial cells | Rnd1 |
| Endothelial cells | Sema3d |
| Endothelial cells | Wfdc1 |
| Endothelial cells | Vwa1 |
| Endothelial cells | Tbx1 |
| Endothelial cells | Sema7a |
| Endothelial cells | Tgfbr2 |
| Endothelial cells | Slc2a1 |
| Endothelial cells | Tspan8 |
| Endothelial cells | Srgn |
| Endothelial cells | S100a10 |
| Endothelial cells | Ushbp1 |
| Endothelial cells | Oit3 |
| Endothelial cells | Slc38a5 |
| Endothelial cells | Xdh |
| Endothelial cells | Slc9a3r2 |
| Endothelial cells | Rgcc |
| Endothelial cells | Sparcl1 |
| Endothelial cells | Tm4sf1 |
| Endothelial cells | Srpx |
| Endothelial cells | S100a13 |
| Endothelial cells | Sgk1 |
| Endothelial cells | Timp3 |
| Endothelial cells | Stab2 |
| Enterochromaffin cells | Reg4 |
| Enterochromaffin cells | Slc18a1 |
| Enteroendocrine cells | Scn3a |
| Enteroendocrine cells | Sct |
| Enteroendocrine cells | Vwa5b2 |
| Enteroendocrine cells | Scgn |
| Enteroendocrine cells | Tac1 |
| Enteroendocrine cells | Rimbp2 |
| Enteroendocrine cells | Glp2r |
| Enteroendocrine cells | Mc4r |
| Enteroendocrine cells | Sstr2 |
| Enteroendocrine cells | Tas1r2 |
| Eosinophils | Ptgdr2 |
| Eosinophils | Il5ra |
| Fibroblasts | Scara5 |
| Fibroblasts | Tnxb |
| Fibroblasts | Wif1 |
| Fibroblasts | Snhg18 |
| Fibroblasts | Spon2 |
| Fibroblasts | Tcf21 |
| Fibroblasts | Wisp1 |
| Fibroblasts | Twist2 |
| Fibroblasts | Ripk3 |
| Fibroblasts | Serpinh1 |
| Fibroblasts | Runx1 |
| Fibroblasts | Stat3 |
| Fibroblasts | Zeb2 |
| Fibroblasts | Tbx20 |
| SMC | Muc5ac |
| SMC | Tff1 |
| SMC | Il33 |
| Gastric chief cells | Rab3d |
| Gastric chief cells | Lep |
| Gastric chief cells | Gif |
| Macrophages | Tgfbr1 |
| Macrophages | Slamf9 |
| Macrophages | Rbpj |
| Macrophages | Slco2b1 |
| Macrophages | Rab20 |
| Macrophages | Samsn1 |
| Macrophages | Slc37a2 |
| Macrophages | Tyrobp |
| Macrophages | Slc15a3 |
| Macrophages | Runx3 |
| Macrophages | Syk |
| Mast cells | Tpsab1 |
| Mast cells | Rab27b |
| Mast cells | Slc6a4 |
| Mast cells | Mrgprb2 |
| Mast cells | Mrgprb1 |
| Mast cells | Tpsb2 |
| Mast cells | Tpsg1 |
| Mast cells | Vwa5a |
| Mast cells | Mrgpra4 |
| Mast cells | Mrgprx2 |
| Mast cells | Olfr920 |
| Mast cells | Rnf128 |
| Mast cells | Slc29a1 |
| Mast cells | Slc45a3 |
| Mast cells | Stard13 |
| Mast cells | Mcpt2 |
| Mast cells | Zdhhc13 |
| Mast cells | Wdr60 |
| Mast cells | Unc13b |
| Mast cells | Trank1 |
| Mast cells | Tiam2 |
| Mast cells | Tcf7l1 |
| Mast cells | Stk32b |
| Mast cells | St6galnac3 |
| Mast cells | Socs2 |
| Mast cells | Spred1 |
| Mast cells | Smpx |
| Mast cells | Smarca1 |
| Mast cells | Slc4a4 |
| Mast cells | Slc31a2 |
| Mast cells | Sgce |
| Mast cells | Ror1 |
| Mast cells | Rnf180 |
| Mast cells | Rbfox1 |
| Mast cells | Rapgef2 |
| Mast cells | Olfr918 |
| Mast cells | Olfr917 |
| Mast cells | Mrgprx1 |
| Metaplastic cells | Pga5 |
| Metaplastic cells | Clu |
| Monocytes | Tet2 |
| Monocytes | Ghsr |
| Monocytes | Tnfrsf14 |
| Mucous neck cells | Muc6 |
| Natural killer T cells | Tnfrsf8 |
| Natural killer T cells | Zbtb16 |
| Natural killer T cells | Tbx21 |
| Natural killer T cells | S1pr1 |
| Natural killer T cells | Styk1 |
| Neutrophils | Trem1 |
| Neutrophils | Sorl1 |
| Neutrophils | Slc1a5 |
| Parietal cells | Atp4b |
| Parietal cells | Atp4a |
| Pericytes | Zic1 |
| Pericytes | Steap4 |
| Plasma cells | Gpr25 |
| Plasma cells | Ighe |
| Plasma cells | Lime1 |
| Plasma cells | Mast1 |
| Plasma cells | P2rx5 |
| Plasma cells | Sik1 |
| Plasma cells | Spag4 |
| Plasma cells | St6galnac4 |
| Plasma cells | Tgm5 |
| Plasma cells | Tmem156 |
| Plasma cells | Zbp1 |
| Plasma cells | Ssr4 |
| Plasmacytoid dendritic cells | Tlr7 |
| Plasmacytoid dendritic cells | Serpinf1 |
| Plasmacytoid dendritic cells | Zfat |
| Plasmacytoid dendritic cells | Slc15a4 |
| Proliferating Tff2+ cells | Mki67 |
| Proliferating Tff2+ cells | Cdk1 |
| Proliferating Tff2+ cells | Pcna |
| Stromal cells | Wnt2 |
| T cells | Trbc2 |
| T cells | Trac |
| T cells | Txk |
| T cells | Tnfrsf4 |
| T cells | Skap1 |
| Tuft cells | Sucnr1 |
| Tuft cells | Trpm5 |
| Tuft cells | Il25 |
| Tuft cells | Drd3 |
| Tuft cells | Rac2 |
| Tuft cells | Tslp |