

1 Supplementary Table 2. Differentially expresses genes in endometrium of SNEB cows mapped to the IPA database which were
 2 included in immune and inflammatory gene dataset.
 3

| Gene Symbol (no. probes) | Real Fold changes | Adj P-Value (Bonferroni) | Gene Title | Probe Names | Entrez Gene |
|----------------------------------|-------------------|--------------------------|---|---|-------------|
| UP-REGULATED IN SNEB COWS | | | | | |
| <i>ACTN4</i> | 7.99 | <10 ⁻¹⁰ | Actinin, alpha 4 | Bt_16790_2_S1_at | 522269 |
| <i>AHSG (x4)</i> | 7.73 | <10 ⁻¹⁰ | Alpha-2-HS-glycoprotein | Bt_23250_7_A1_x_at | 280988 |
| | 8.01 | <10 ⁻¹⁰ | | Bt_23250_5_A1_at | |
| | 6.94 | <10 ⁻¹⁰ | | Bt_23250_1_A1_x_at | |
| | 3.94 | <10 ⁻¹⁰ | | Bt_23250_6_A1_x_at | |
| | 3.21 | 5.3x10 ⁻⁷ | | Aldo-keto reductase family 1, member C4 | |
| <i>BCL2A1</i> | 3.28 | 0.0002 | BCL2-related protein A1 | Bt_7542_1_S1_at | 282151 |
| <i>BLA-DQB</i> | 11.3 | <10 ⁻¹⁰ | MHC class II antigen | Bt_7220_1_S1_at | 539241 |
| <i>BOLA</i> | 1.87 | 0.0142 | MHC class I heavy chain | Bt_29815_1_S1_x_at | 515712 |
| <i>CIQA</i> | 2.29 | 3.4x10 ⁻⁵ | Complement component 1, q subcomponent, A chain | Bt_1577_1_S1_at | 534961 |
| <i>CIQB</i> | 2.30 | 7.4x10 ⁻⁶ | Complement component 1, q subcomponent, B chain | Bt_20164_1_S1_at | 617435 |
| <i>CIQC</i> | 2.21 | 3.1x10 ⁻⁵ | Complement component 1, q subcomponent, C chain | Bt_21576_1_S1_at | 509968 |
| <i>C3(x2)</i> | 4.25 | 3.4x10 ⁻⁵ | Complement component 3 | Bt_4209_2_S1_at | 280677 |
| | 3.28 | 0.0007 | | Bt_4209_2_S1_a_at | |
| <i>CCR5</i> | 1.94 | 0.0036 | Chemokine (C-C motif) receptor 5 | Bt_21331_2_S1_at | 497017 |
| <i>CCR7</i> | 2.81 | 0.0099 | Chemokine (C-C motif) receptor 7 | Bt_12241_1_S1_at | 510668 |
| <i>CD36</i> | 2.88 | 7.7x10 ⁻⁹ | CD36 molecule (thrombospondin receptor) | Bt_5392_1_S1_at | 281052 |
| <i>CD48</i> | 2.89 | <10 ⁻¹⁰ | CD48 molecule | Bt_13293_1_S1_at | 508386 |
| <i>CD53</i> | 3.04 | <10 ⁻¹⁰ | CD53 molecule | Bt_14005_1_S1_at | 505040 |
| <i>CD69</i> | 2.62 | 0.0002 | CD69 molecule | Bt_8544_1_S1_at | 281058 |
| <i>CD79A</i> | 1.83 | 0.0001 | CD79a molecule, immunoglobulin-associated alpha | Bt_4436_1_S1_a_at | 281674 |
| <i>CDH17</i> | 2.12 | 6.7x10 ⁻⁶ | Cadherin 17 | Bt_28258_1_S1_at | 507526 |
| <i>CFB</i> | 2.91 | 9.8x10 ⁻⁷ | Complement factor B | Bt_13542_1_S1_at | 514076 |
| <i>CFH</i> | 2.01 | 0.0016 | Complement factor H | Bt_13556_1_S1_a_at | 280816 |
| <i>CHI3L1</i> | 4.72 | 5.7x10 ⁻⁶ | Chitinase 3-like 1 | Bt_5238_1_S1_at | 286869 |
| <i>CLEC2D</i> | 2.17 | 2.0x10 ⁻⁷ | C-type lectin domain family 2, member D | Bt_24069_1_A1_at | 617565 |
| <i>CTSL1</i> | 7.34 | <10 ⁻¹⁰ | Cathepsin L1 | Bt_10200_1_S1_at | 515200 |

| | | | | | |
|-------------------|------|-----------------------|---|--------------------|------------|
| <i>CXCL13</i> | 1.28 | 0.0022 | Chemokine (C-X-C motif) ligand 13 | Bt_28088_1_S1_at | 511674 |
| <i>CXCL14</i> | 1.97 | 0.0004 | Chemokine (C-X-C motif) ligand 14 | Bt_20397_1_S1_at | 511771 |
| <i>CXCL2(x3)</i> | 4.90 | 3.0×10^{-7} | Chemokine (C-X-C motif) ligand 2 | Bt_610_1_A1_at | 281214 |
| | 5.72 | 4.0×10^{-7} | | Bt_611_1_S2_at | |
| | 2.81 | 0.0006 | | Bt_611_1_S1_x_at | |
| <i>CXCL5</i> | 14.8 | $<10^{-10}$ | Chemokine (C-X-C motif) ligand 5 | Bt_7165_1_S1_at | 281735 |
| <i>CXCR6</i> | 2.23 | 0.0150 | Chemokine (C-X-C motif) receptor 6 | Bt_21979_1_S1_at | 506807 |
| <i>DEFB1</i> | 2.29 | 1.9×10^{-6} | Defensin, beta 1 | Bt_132_1_S1_at | 281743 |
| <i>DKK1</i> | 3.35 | 1.9×10^{-5} | Dickkopf homolog 1 (<i>Xenopus laevis</i>) | Bt_13880_1_S1_at | 504445 |
| <i>FABP4</i> | 2.58 | 2.8×10^{-8} | Fatty acid binding protein 4 | Bt_97_1_S1_at | 281759 |
| <i>GNLY (x2)</i> | 2.87 | 1.1×10^{-8} | Granulysin | Bt_16101_1_S1_s_at | 404173 |
| | 2.93 | 3.0×10^{-10} | | Bt_16101_1_S1_at | |
| <i>GPX3</i> | 2.33 | 0.0489 | Glutathione peroxidase 3 | Bt_12916_1_S1_at | 281210 |
| <i>HCK</i> | 2.14 | 0.0147 | Hemopoietic cell kinase | Bt_22050_1_S1_at | 280814 |
| <i>HP</i> | 2.04 | 0.0006 | Haptoglobin | Bt_12553_1_S1_at | 280692 |
| <i>ICOS</i> | 2.20 | 0.0138 | Inducible T-cell co-stimulator | Bt_17957_1_A1_at | 507026 |
| <i>(2 probes)</i> | 2.52 | 0.0146 | | Bt_24712_1_S1_at | |
| <i>IFIH1</i> | 2.41 | 0.0079 | Interferon induced with helicase C domain 1 | Bt_16857_1_A1_at | 535490 |
| <i>IgCgamma</i> | 4.60 | $<10^{-10}$ | IgG2a heavy chain constant region | Bt_12490_2_A1_x_at | 404109 |
| <i>IGFBP1</i> | 2.31 | 2.9×10^{-6} | Insulin-like growth factor binding protein 1 | Bt_190_1_A1_at | 282259 |
| <i>IGHG1(x3)</i> | 2.99 | $<10^{-10}$ | Immunoglobulin heavy constant gamma 1 | Bt_12490_1_S1_at | 281850 |
| | 3.00 | $<10^{-10}$ | | | |
| | 3.05 | $<10^{-10}$ | | | |
| <i>IGHM</i> | 5.09 | $<10^{-10}$ | Immunoglobulin heavy constant mu | Bt_7783_1_S1_a_at | 404057 |
| <i>IGJ</i> | 3.49 | $<10^{-10}$ | Immunoglobulin J chain | Bt_3843_1_S1_at | 280821 |
| <i>IGK</i> | 3.90 | 3.9×10^{-8} | Ig kappa chain | Bt_12906_2_S1_at | 506890 |
| <i>IGL@ ///</i> | 2.69 | 3.8×10^{-9} | Immunoglobulin light chain, lambda gene cluster /// | Bt_21368_1_S1_s_at | 505478 /// |
| <i>IGLL1</i> | | | immunoglobulin lambda-like polypeptide 1 | | 789205 |
| <i>IL1B</i> | 2.73 | 9.3×10^{-5} | Interleukin 1, beta | Bt_4856_1_S2_at | 281251 |
| <i>IL1R</i> | 8.27 | $<10^{-10}$ | Interleukin 1 receptor | Bt_24073_1_S1_at | 515640 |
| <i>IL1RN</i> | 2.94 | 1.4×10^{-6} | Interleukin 1 receptor antagonist | Bt_4199_1_S1_at | 281860 |
| <i>IL8</i> | 8.11 | $<10^{-10}$ | Interleukin 8 | Bt_155_1_S1_at | 280828 |
| <i>IL8RB</i> | 6.37 | $<10^{-10}$ | Interleukin 8 receptor, beta | Bt_4208_1_S1_at | 281863 |
| <i>INDO</i> | 2.10 | 0.0320 | Indoleamine-pyrrole 2,3 dioxygenase | Bt_27759_1_A1_at | 506281 |
| <i>ISG15</i> | 5.79 | $<10^{-10}$ | ISG15 ubiquitin-like modifier | Bt_12304_1_S1_at | 281871 |
| <i>ISG20</i> | 3.63 | 7.1×10^{-8} | Interferon stimulated exonuclease gene 20kDa | Bt_22275_1_A1_at | 506604 |

| | | | | | |
|--------------------|-------|-----------------------|--|--------------------|--------|
| <i>KNGI</i> | 2.26 | 9.1x10 ⁻¹⁰ | Kininogen 1 | Bt_4210_1_A1_a_at | 280833 |
| <i>LOC404062</i> | 4.42 | 3.0x10 ⁻⁹ | Immunoglobulin light chain VJ region | Bt_21368_2_S1_x_at | 404062 |
| <i>LOC512486</i> | 2.41 | 5.8x10 ⁻⁷ | Similar to Interferon-induced guanylate-binding protein 1 | Bt_9296_1_A1_at | 512486 |
| <i>LOC512672</i> | 2.17 | 0.0078 | Major histocompatibility complex, class I | Bt_9217_1_A1_at | 512672 |
| <i>LY9</i> | 1.79 | 0.0049 | Lymphocyte antigen 9 | Bt_28439_1_S1_a_at | 528926 |
| <i>MAP3K8</i> | 2.24 | 0.0009 | Mitogen-activated protein kinase kinase kinase 8 | Bt_28561_1_S1_at | 535622 |
| <i>MAPK13</i> | 2.25 | 0.0085 | Mitogen-activated protein kinase 13 | Bt_800_1_S1_at | 535327 |
| <i>MMP1</i> | 28.8 | <10 ⁻¹⁰ | Matrix metalloproteinase 1 (interstitial collagenase) | Bt_72_1_S1_at | 281308 |
| <i>MMP13(x2)</i> | 9.40 | <10 ⁻¹⁰ | Matrix metalloproteinase 13 (collagenase 3) | Bt_26268_1_A1_at | 281914 |
| | 5.31 | <10 ⁻¹⁰ | | Bt_39_1_S1_at | |
| <i>MMP3 (x2)</i> | 14.04 | <10 ⁻¹⁰ | Matrix metalloproteinase 3 | Bt_18504_1_S1_at | 281309 |
| | 12.93 | <10 ⁻¹⁰ | | Bt_18504_2_S1_a_at | |
| <i>MMP9</i> | 5.29 | <10 ⁻¹⁰ | Matrix metalloproteinase 9 | Bt_4714_1_S1_at | 282871 |
| <i>MPEG1</i> | 2.22 | 1.1x10 ⁻⁵ | Macrophage expressed gene 1 | Bt_24238_1_A1_at | 539997 |
| <i>MS4A1(x2)</i> | 5.14 | <10 ⁻¹⁰ | Membrane-spanning 4-domains, subfamily A, member 1 | Bt_2158_1_S1_at | 505653 |
| | 2.53 | 7.8x10 ⁻⁵ | | Bt_2158_2_S1_at | |
| <i>MX1</i> | 2.22 | 0.0374 | Myxovirus (influenza virus) resistance 1 | Bt_4675_1_S1_a_at | 280872 |
| <i>MX2</i> | 3.13 | 0.0001 | Myxovirus (influenza virus) resistance 2 (mouse) | Bt_8143_1_S1_at | 280873 |
| <i>NFKBIZ</i> | 2.81 | 2.8x10 ⁻⁵ | Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, zeta | Bt_8227_1_S1_at | 282713 |
| <i>PDCD1LG2</i> | 1.63 | 1.2x10 ⁻⁷ | Programmed cell death 1 ligand 2 | Bt_20653_1_A1_at | 539392 |
| <i>PLAUR</i> | 2.57 | 0.0122 | Plasminogen activator, urokinase receptor | Bt_1942_1_S1_at | 281983 |
| <i>POU2AF1</i> | 4.84 | <10 ⁻¹⁰ | POU class 2 associating factor 1 | Bt_17854_1_A1_at | 528475 |
| <i>PTGS1</i> | 2.44 | 0.0015 | Prostaglandin-endoperoxide synthase 1 | Bt_2151_2_A1_at | 282022 |
| <i>PTGS2 (x2)</i> | 4.28 | <10 ⁻¹⁰ | Prostaglandin-endoperoxide synthase 2 | Bt_15758_1_S1_at | 282023 |
| | 1.87 | 0.0001 | | Bt_16478_1_A1_at | |
| <i>PTPN22</i> | 2.48 | 5.9x10 ⁻⁷ | Protein tyrosine phosphatase, non-receptor type 22 | Bt_9294_1_A1_at | 518992 |
| <i>S100A12</i> | 8.20 | <10 ⁻¹⁰ | S100 calcium binding protein A12 | Bt_357_1_S1_at | 282467 |
| <i>S100A8</i> | 9.45 | <10 ⁻¹⁰ | S100 calcium binding protein A8 | Bt_9360_1_S1_at | 616818 |
| <i>S100A9 (x2)</i> | 8.28 | <10 ⁻¹⁰ | S100 calcium binding protein A9 | Bt_16201_1_S1_at | 532569 |
| | 3.27 | 0.0018 | | Bt_16201_2_A1_at | |
| <i>SAMD9</i> | 3.25 | 9.5x10 ⁻⁹ | Sterile alpha motif domain containing 9 | Bt_28624_1_S1_at | 514205 |
| <i>SELL</i> | 2.75 | 0.0018 | Selectin L | Bt_2314_1_S1_at | 281485 |
| <i>SLA</i> | 2.38 | 0.0368 | Src-like-adaptor | Bt_784_1_A1_at | 513589 |
| <i>SLAMF7</i> | 2.51 | <10 ⁻¹⁰ | SLAM family member 7 | Bt_6980_1_S1_at | 790164 |
| <i>SLC11A1</i> | 2.08 | 0.0026 | Solute carrier family 11, member 1 | Bt_5373_1_S1_at | 282470 |

| | | | | | |
|---------------|------|-----------------------|--|-------------------|--------|
| <i>SOD2</i> | 4.43 | 8.8x10 ⁻¹⁰ | Superoxide dismutase 2, | Bt_4748_1_S1_at | 281496 |
| <i>SPINK1</i> | 4.77 | <10 ⁻¹⁰ | Serine peptidase inhibitor, Kazal type 1 | Bt_9636_1_S1_at | 574092 |
| <i>SRGN</i> | 3.12 | 0.0001 | Serglycin | Bt_16048_1_S1_at | 509501 |
| <i>TAP</i> | 3.56 | 0.0004 | Tracheal antimicrobial peptide | Bt_510_1_S1_at | 286837 |
| <i>TREM1</i> | 2.40 | 0.0021 | Triggering receptor expressed on myeloid cells 1 | Bt_9208_1_S1_at | 404547 |
| <i>UBD</i> | 3.01 | 8.8x10 ⁻⁶ | Ubiquitin D | Bt_5897_2_S1_at | 504548 |
| <i>VCAM1</i> | 1.48 | 0.0011 | Vascular cell adhesion molecule 1 | Bt_7043_2_S1_a_at | 282118 |
| <i>ZAP70</i> | 2.15 | 0.0238 | Zeta-chain (TCR) associated protein kinase 70kDa | Bt_20905_1_S1_at | 504509 |

DOWN-REGULATED IN SNEB COWS

| | | | | | |
|--------------------|-------|-----------------------|---|--------------------|--------|
| <i>CCNB1</i> | -3.67 | <10 ⁻¹⁰ | Cyclin B1 | Bt_15980_1_A1_at | 327679 |
| <i>CRABP1</i> | -1.89 | 0.0015 | Cellular retinoic acid binding protein 1 | Bt_396_2_S1_a_at | 282201 |
| <i>FKBP4</i> | -1.87 | 0.0055 | FK506 binding protein 4, 59kDa | Bt_4797_1_S1_at | 508535 |
| <i>GSTA1</i> | -1.38 | 0.0003 | Glutathione S-transferase A1 | Bt_227_2_A1_at | 777644 |
| <i>IGF1</i> | -2.11 | 7.9x10 ⁻¹⁰ | Insulin-like growth factor 1 | Bt_12750_1_S1_at | 281239 |
| <i>IHH</i> | -2.43 | 1.6x10 ⁻⁵ | Indian hedgehog homolog (Drosophila) | Bt_22104_1_S1_at | 522714 |
| <i>IL2</i> | -3.10 | 0.0085 | Interleukin 2 | Bt_3307_1_A1_at | 511596 |
| <i>MYB (x2)</i> | -2.76 | <10 ⁻¹⁰ | v-myb myeloblastosis viral oncogene homolog (avian) | Bt_12781_1_S1_at | 317776 |
| | -2.11 | 0.0116 | | Bt_12781_2_S1_a_at | |
| <i>NTRK2 (x4)</i> | -4.00 | <10 ⁻¹⁰ | Neurotrophic tyrosine kinase, receptor, type 2 | Bt_20662_1_A1_at | 505824 |
| | -2.15 | 0.003 | | Bt_12217_3_A1_at | |
| | -2.28 | 0.0027 | | Bt_12217_2_S1_at | |
| | -2.15 | 0.0070 | | Bt_12217_1_S1_at | |
| <i>P2RY14 (x2)</i> | -2.24 | 2.9x10 ⁻⁶ | Purinergic receptor P2Y, G-protein coupled, 14 | Bt_17368_2_S1_at | 767936 |
| | -2.15 | 4.6x10 ⁻⁵ | | Bt_17368_1_A1_at | |
| <i>PIK3R1</i> | -1.96 | 0.0331 | Phosphoinositide-3-kinase, regulatory subunit 1 (alpha) | Bt_7236_1_S1_at | 282307 |
| <i>PLA2G10</i> | -4.50 | 1.6x10 ⁻¹⁰ | Phospholipase A2, group X | Bt_22381_1_S1_at | 613966 |
| <i>PTH1H</i> | -3.40 | 8.4x10 ⁻⁶ | Parathyroid hormone-like hormone | Bt_12848_1_S1_at | 286767 |

4
5