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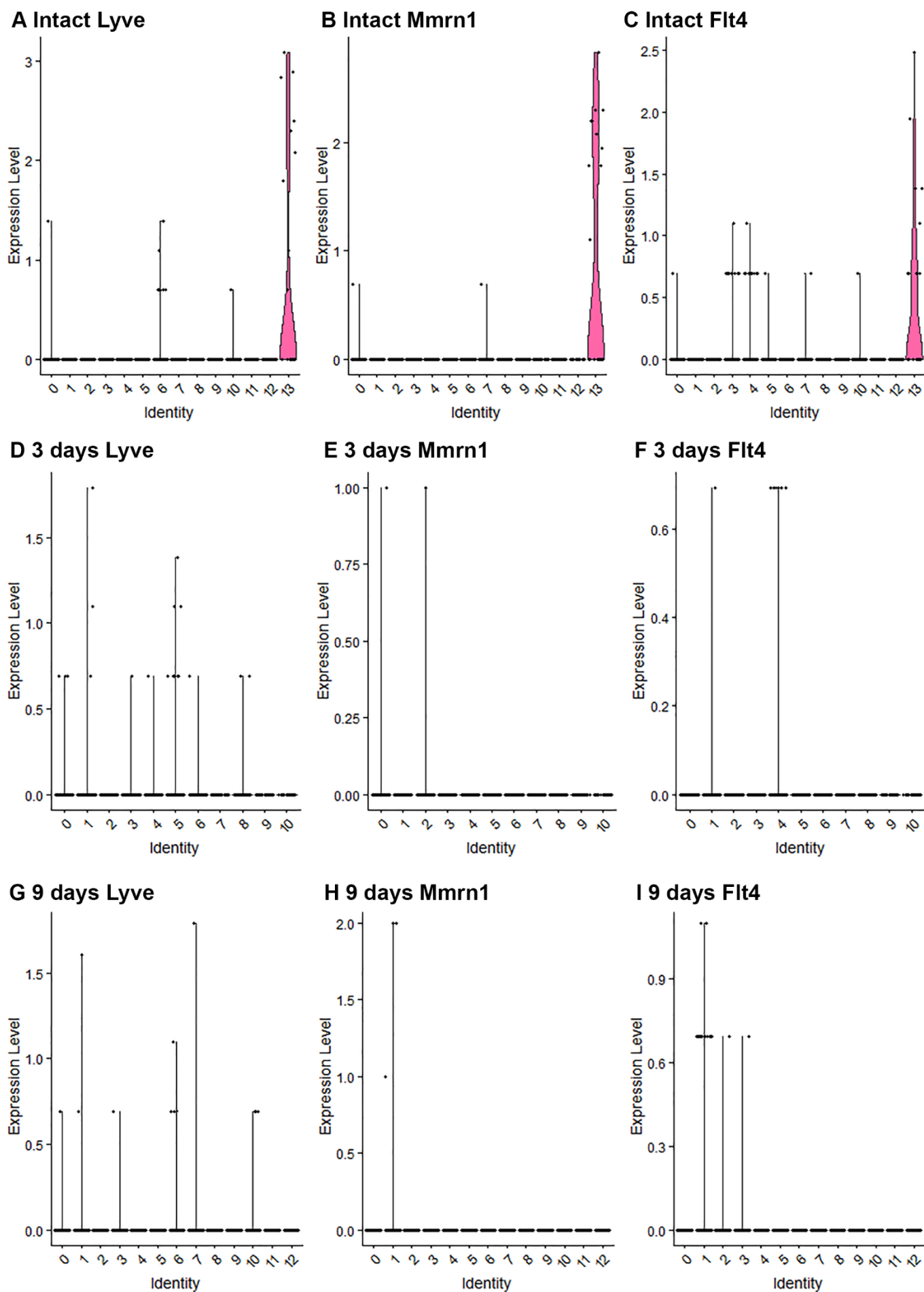


Figure S2

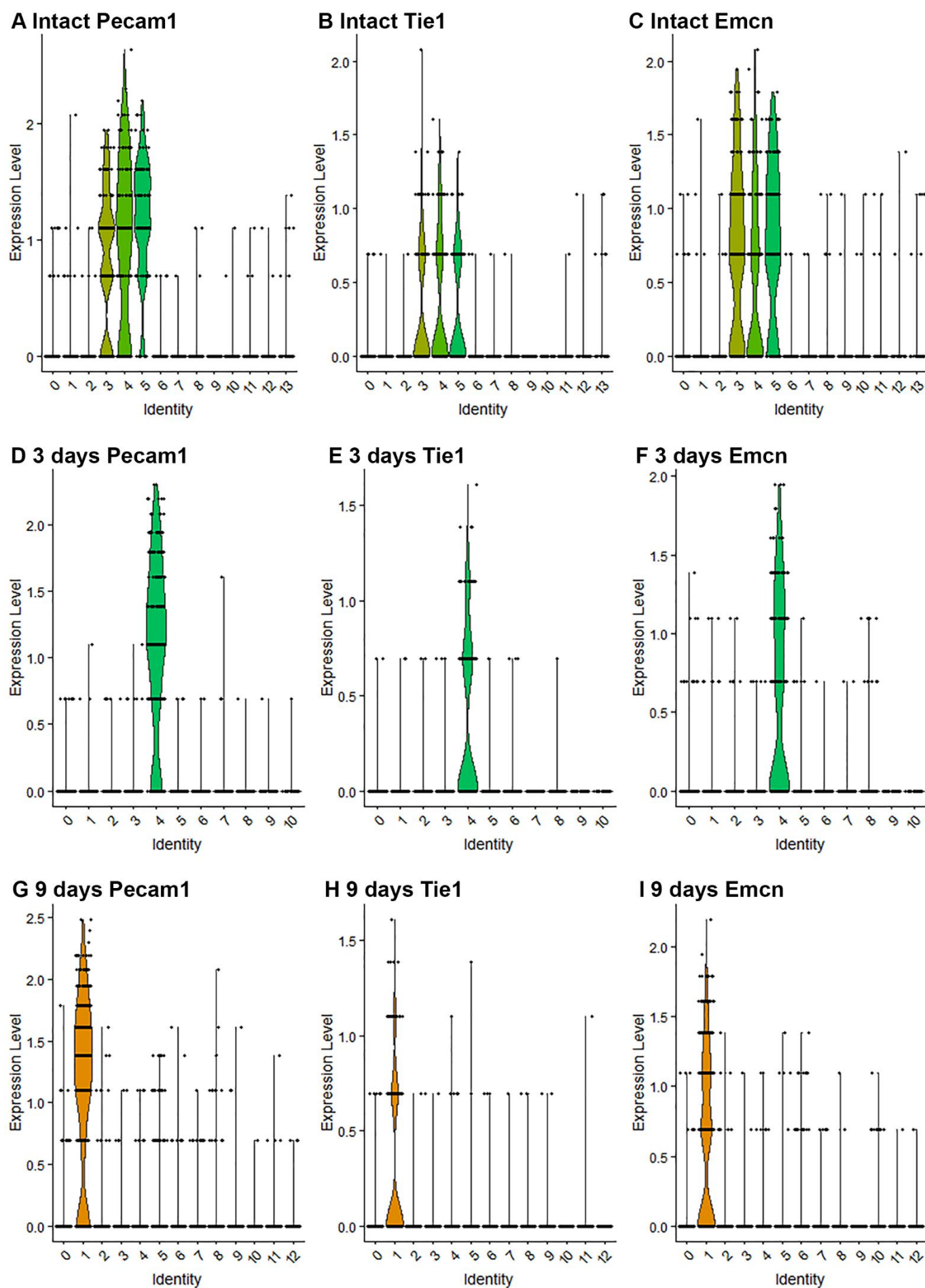
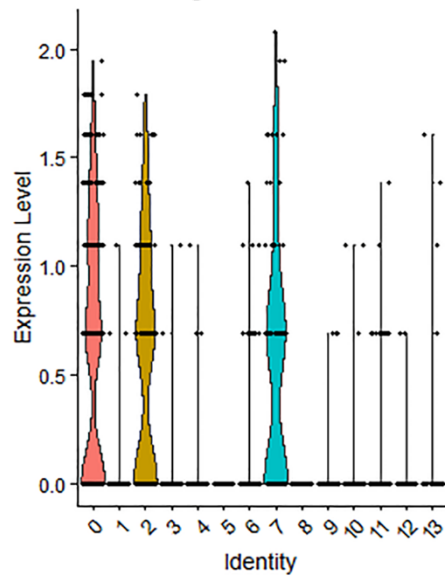
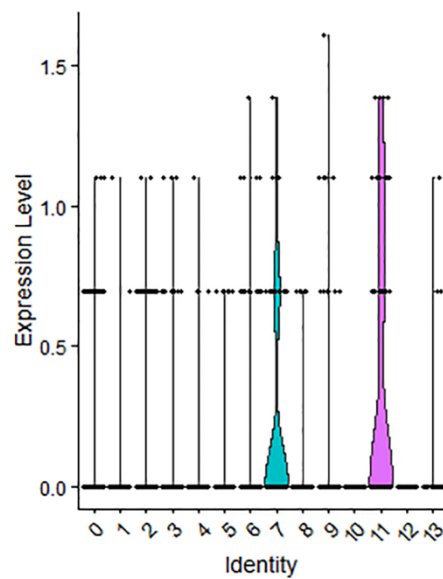


Figure S3

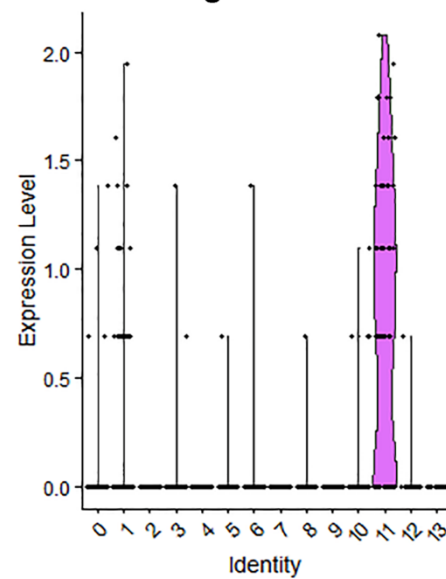
A Intact Pdgfra



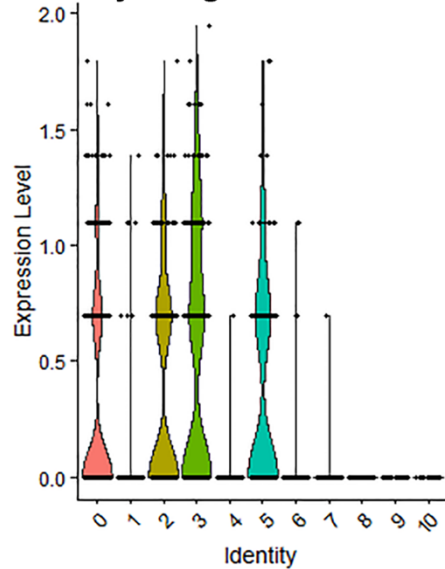
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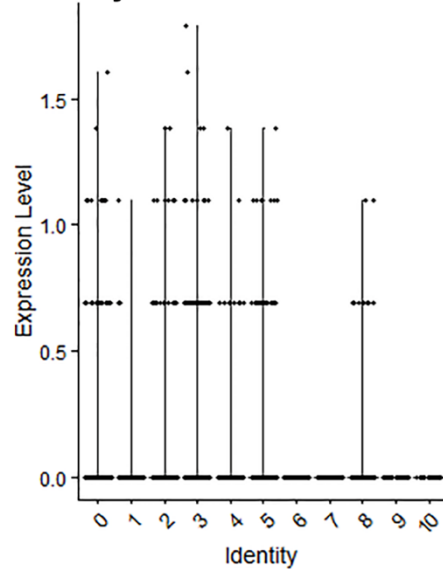
C Intact Ntng1



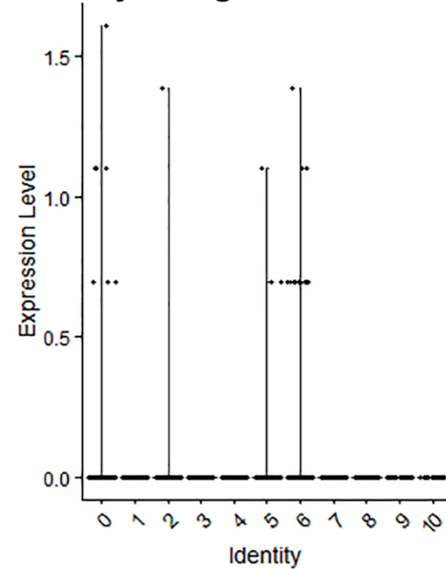
D 3 days Pdgfra



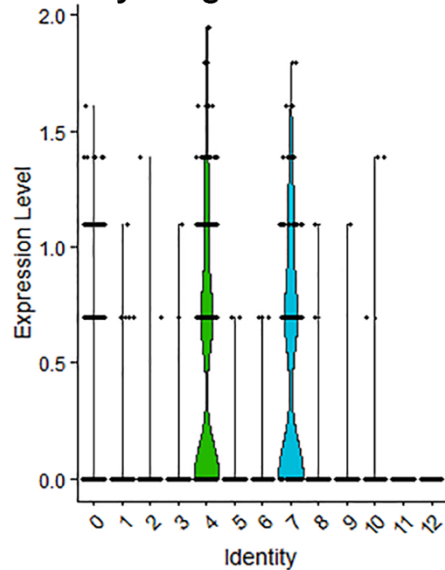
E 3 days Ntn4



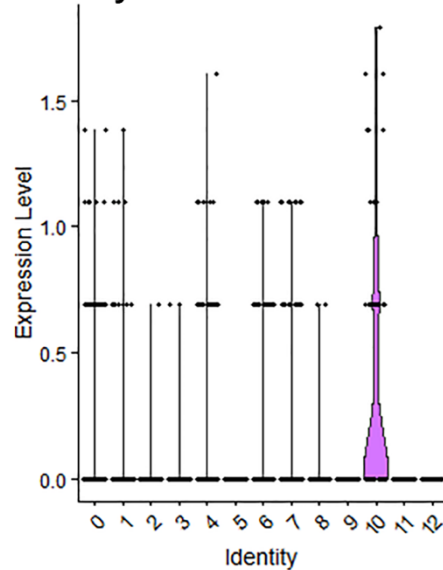
F 3 days Ntng1



G 9 days Pdgfra



H 9 days Ntn4



I 9 days Ntng1

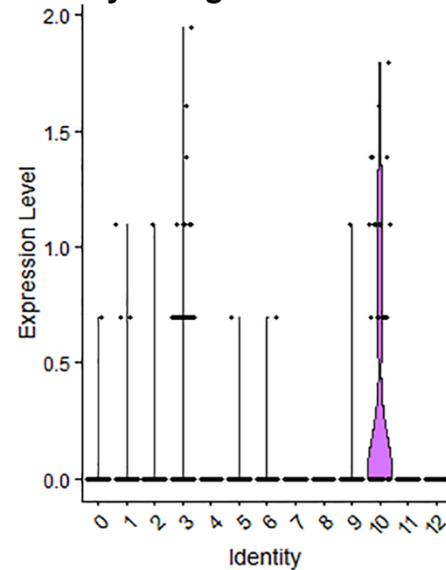
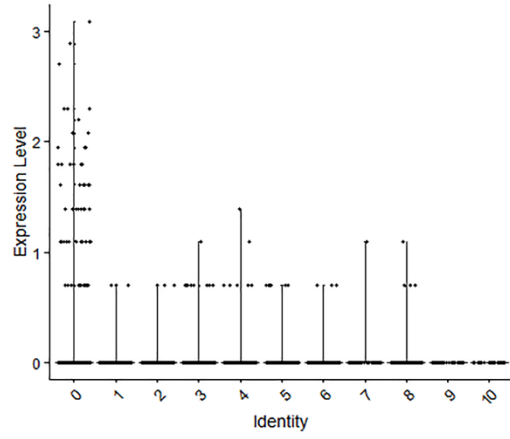
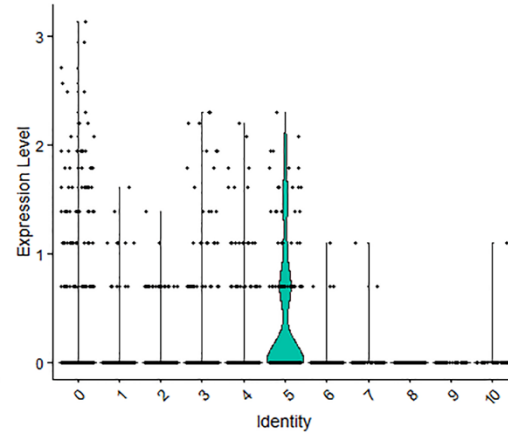


Figure S4

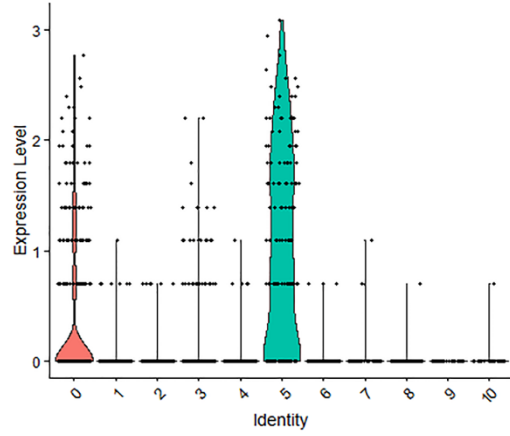
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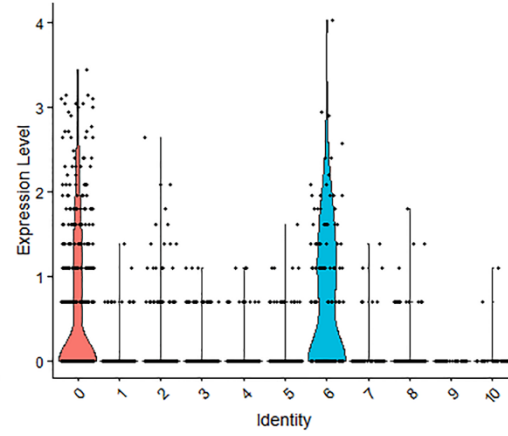
B 3 days Mest



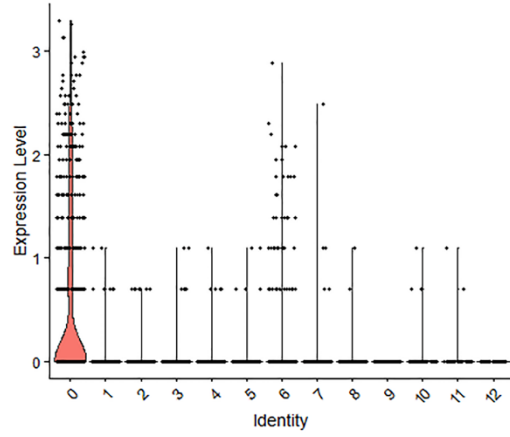
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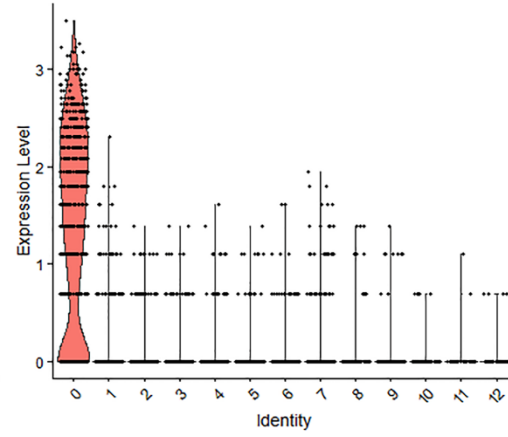
D 3 days Tnc



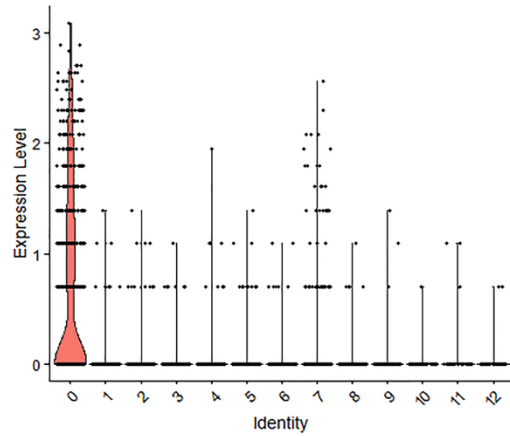
E 9 days Dlk1



F 9 days Mest



G 9 days Cilp



H 9 days Tnc

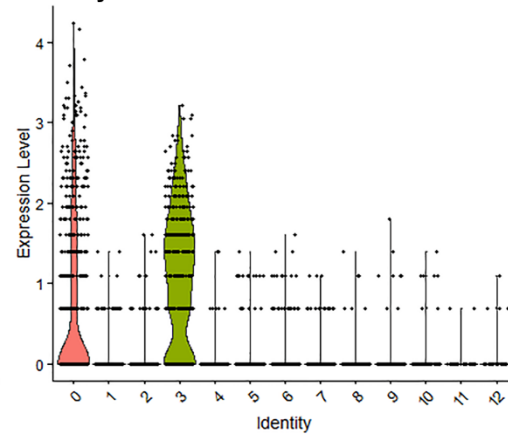
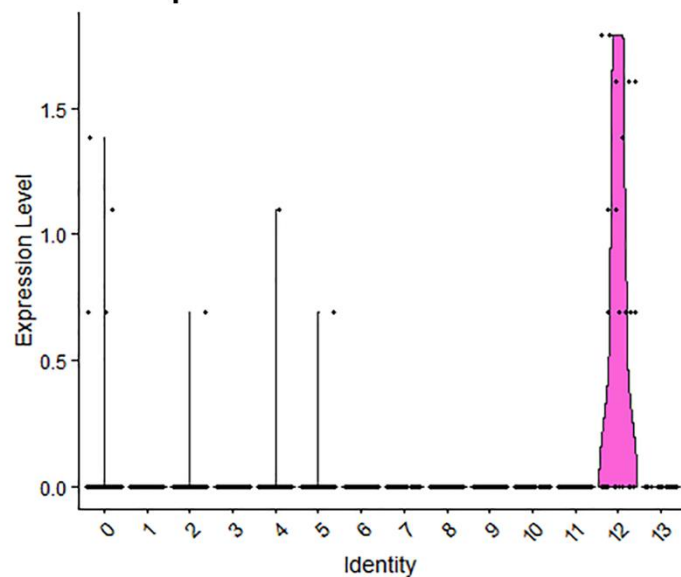
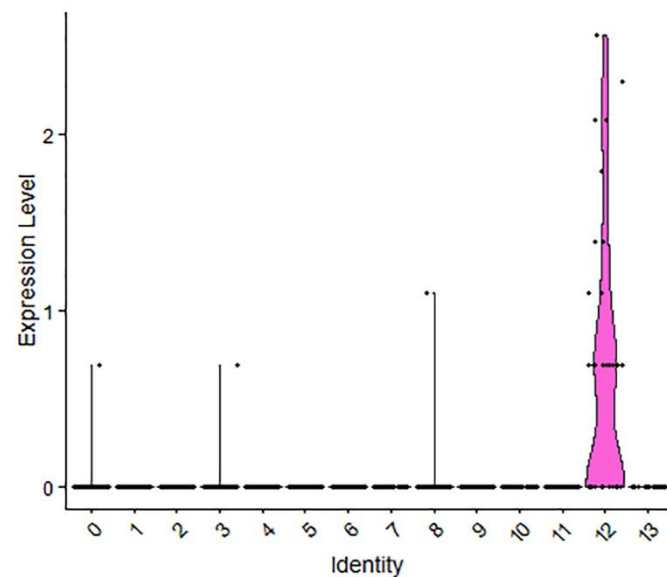


Figure S5

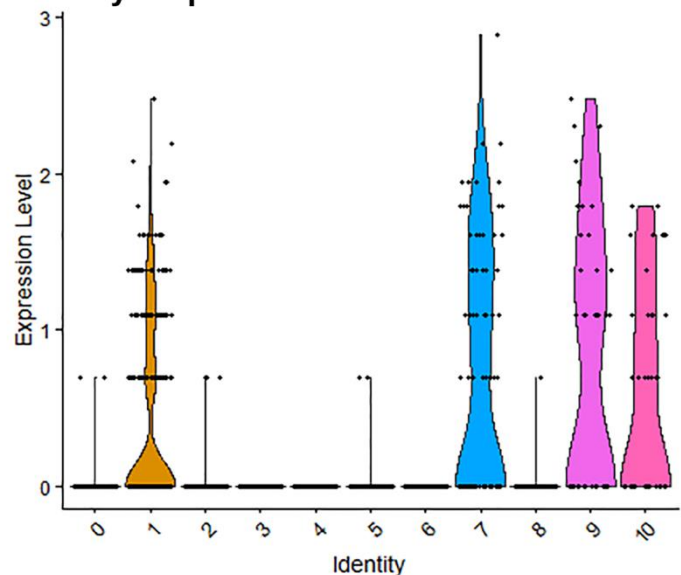
A Intact Ptprc



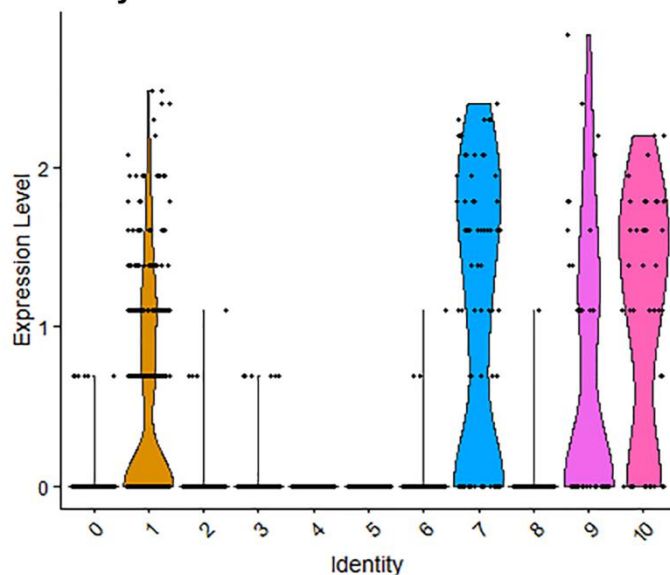
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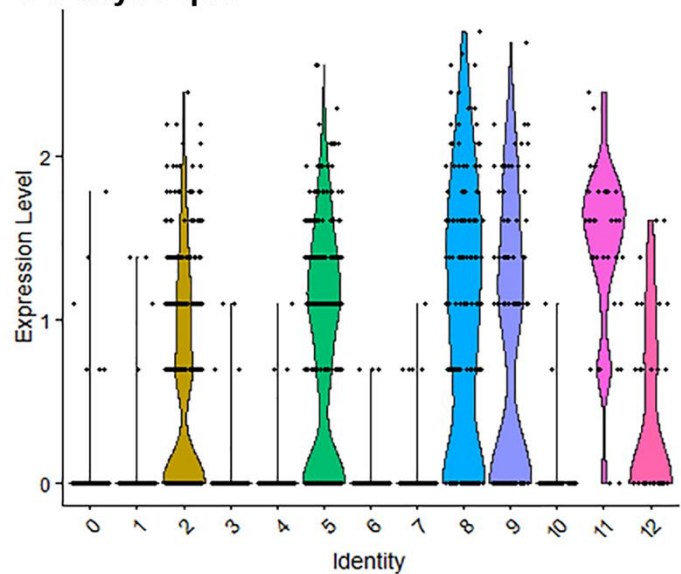
B 3 days Ptprc



E 3 days Cd52



C 9 days Ptprc



F 9 days Cd52

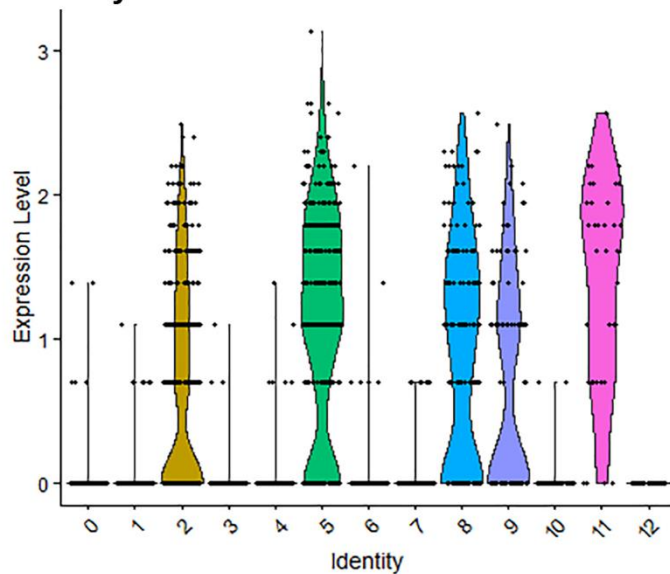


Figure S6

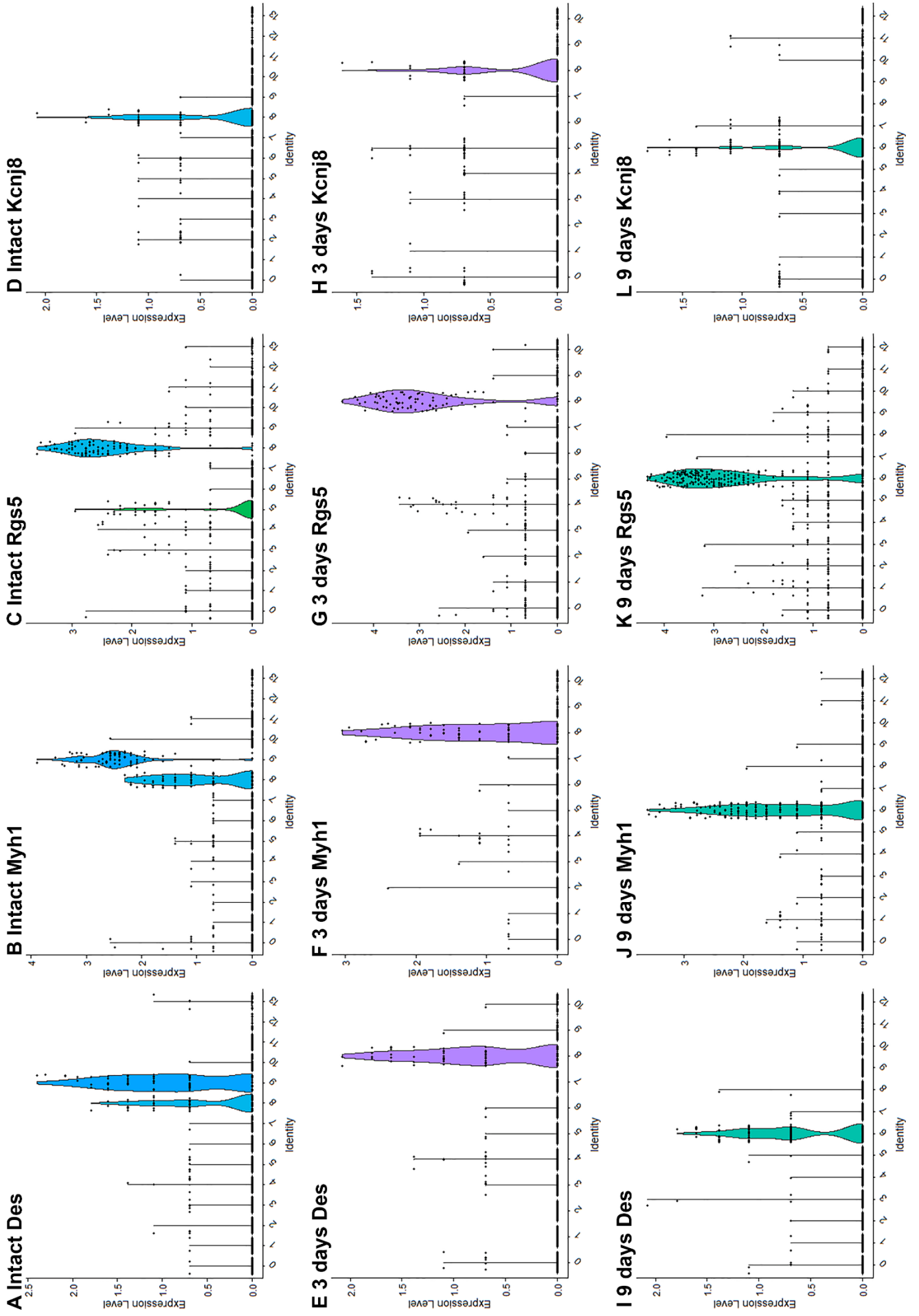
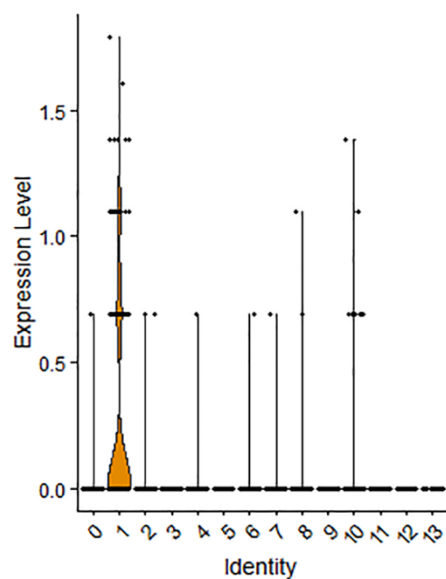
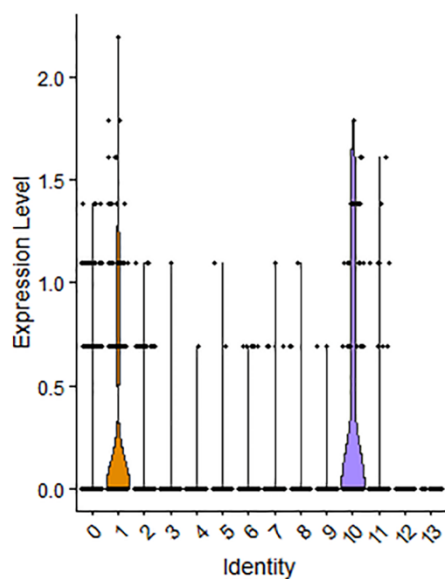


Figure S7

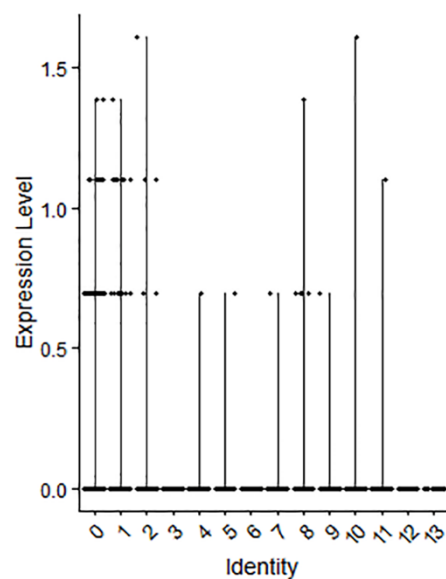
A Intact Erbb3



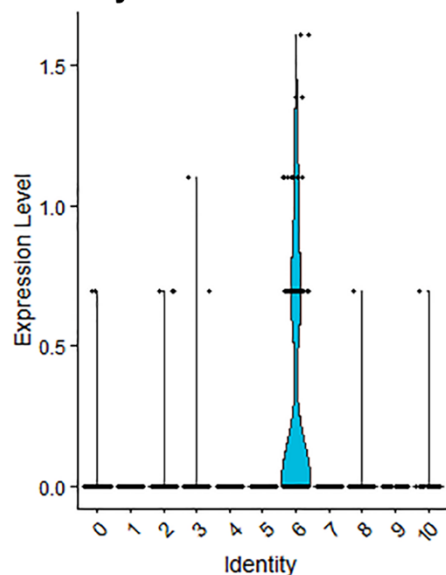
B Intact S100b



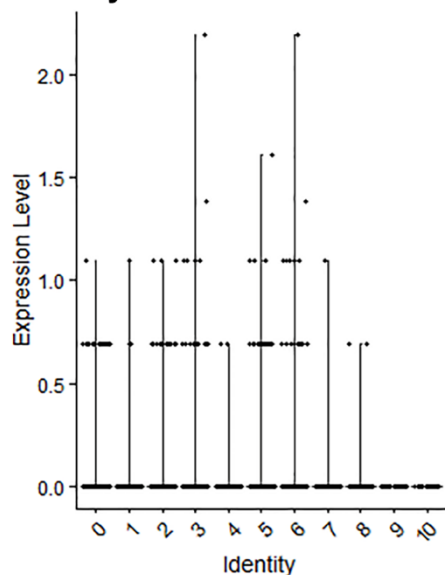
C Intact Ngfr



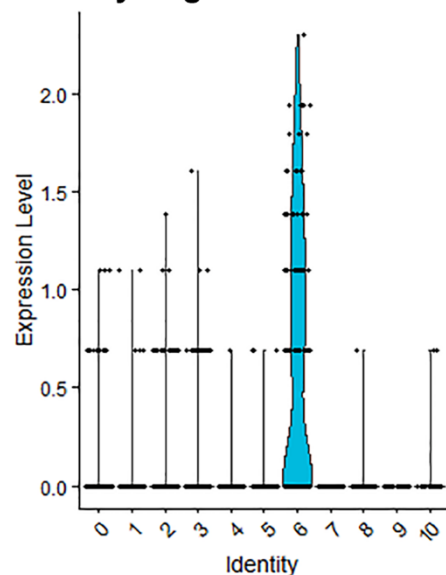
D 3 days Erbb3



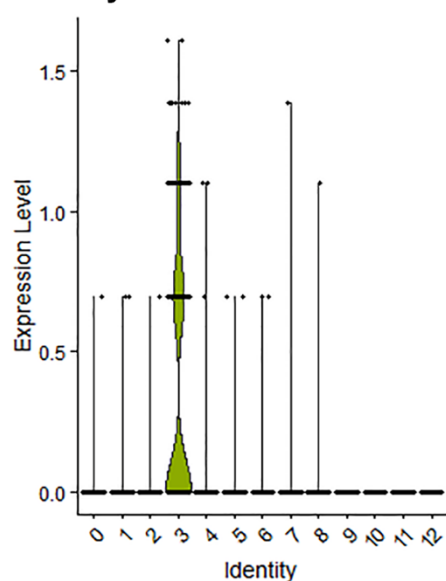
E 3 days S100b



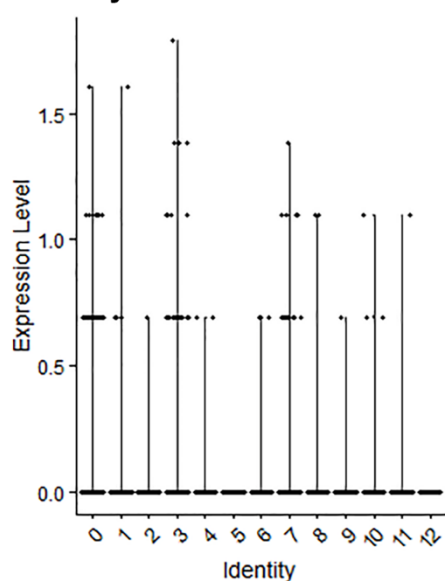
F 3 days Ngfr



G 9 days Erbb3



H 9 days S100b



I 9 days Ngfr

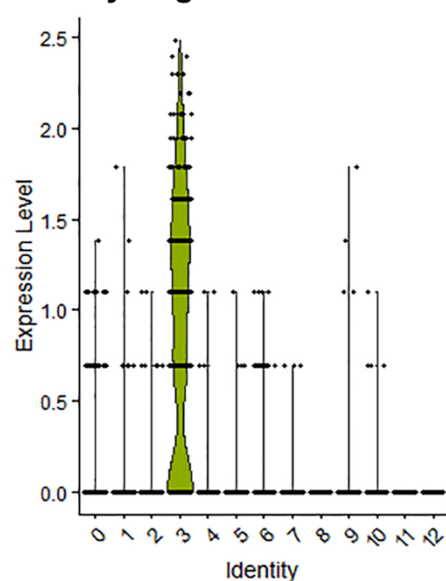


Figure S8

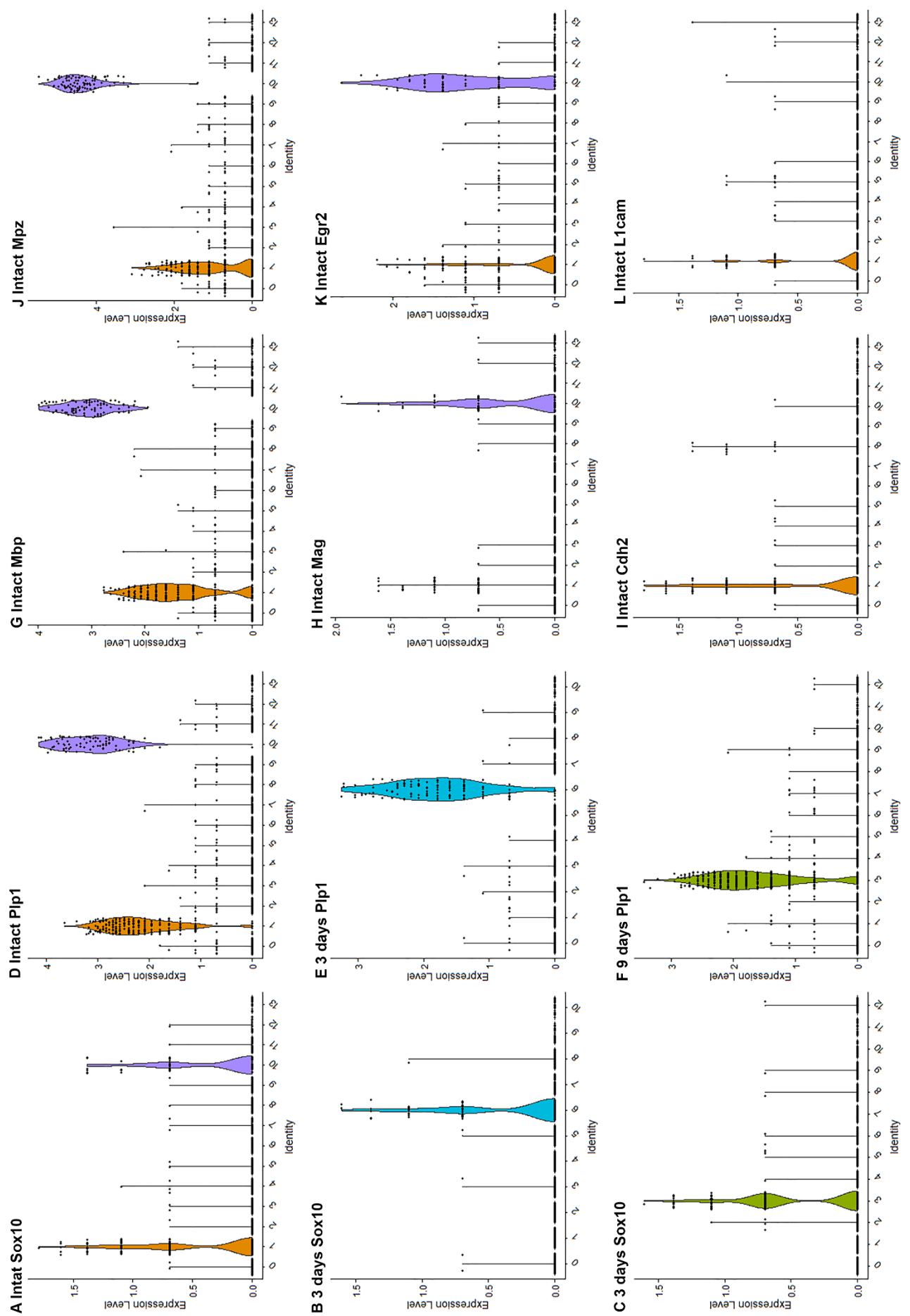
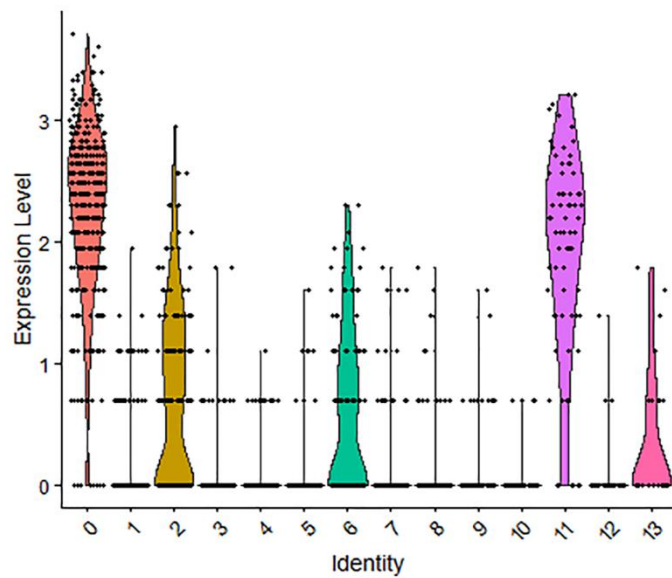
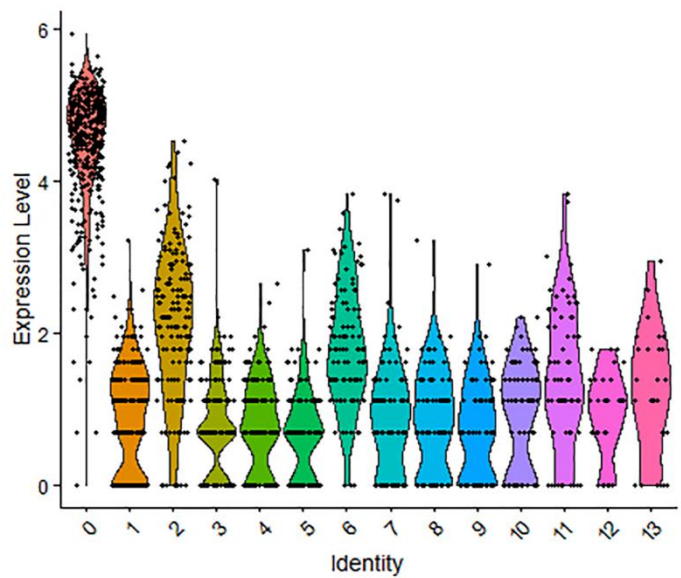


Figure S9

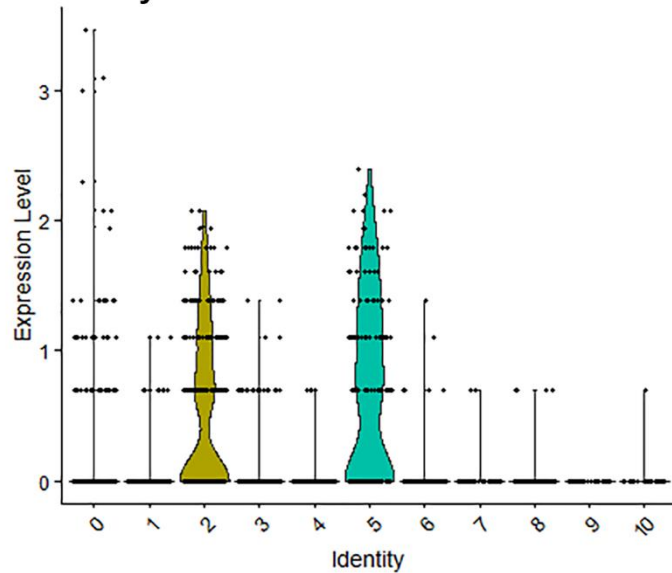
A Intact Smoc2



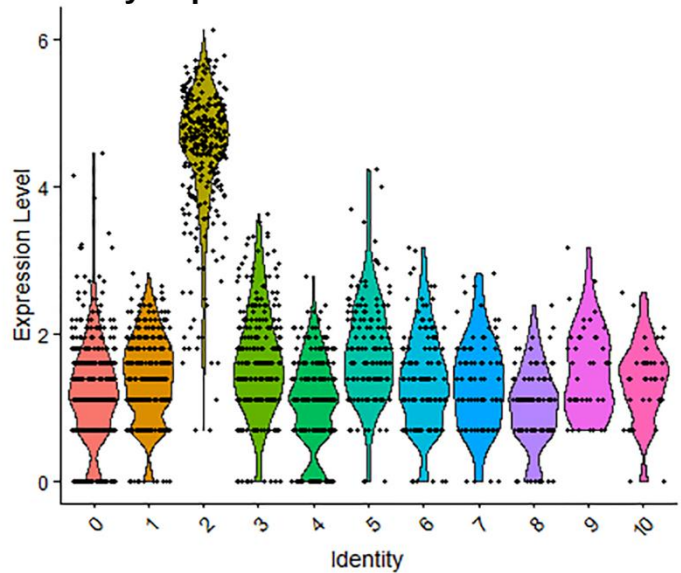
B Intact Apod



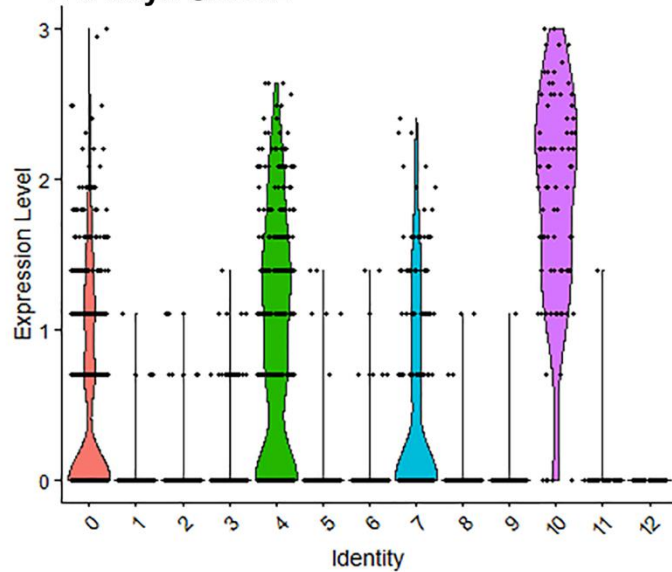
C 3 days Smoc2



D 9 days Apod



E 9 days Smoc2



F 9 days Apod

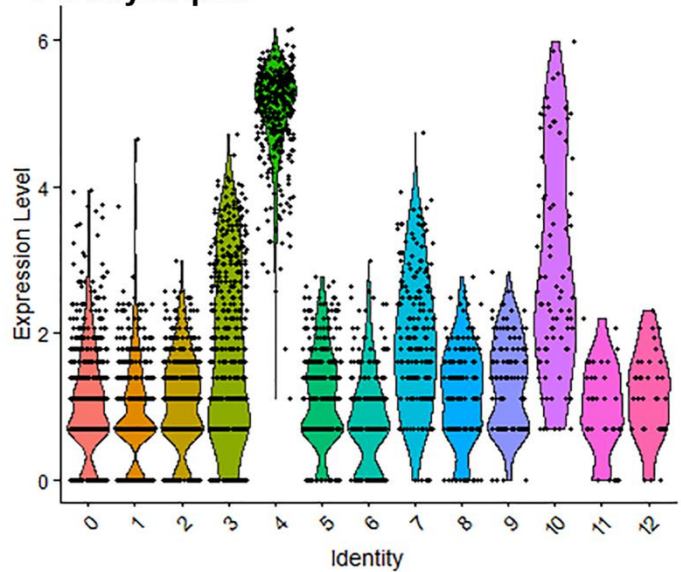


Figure S10

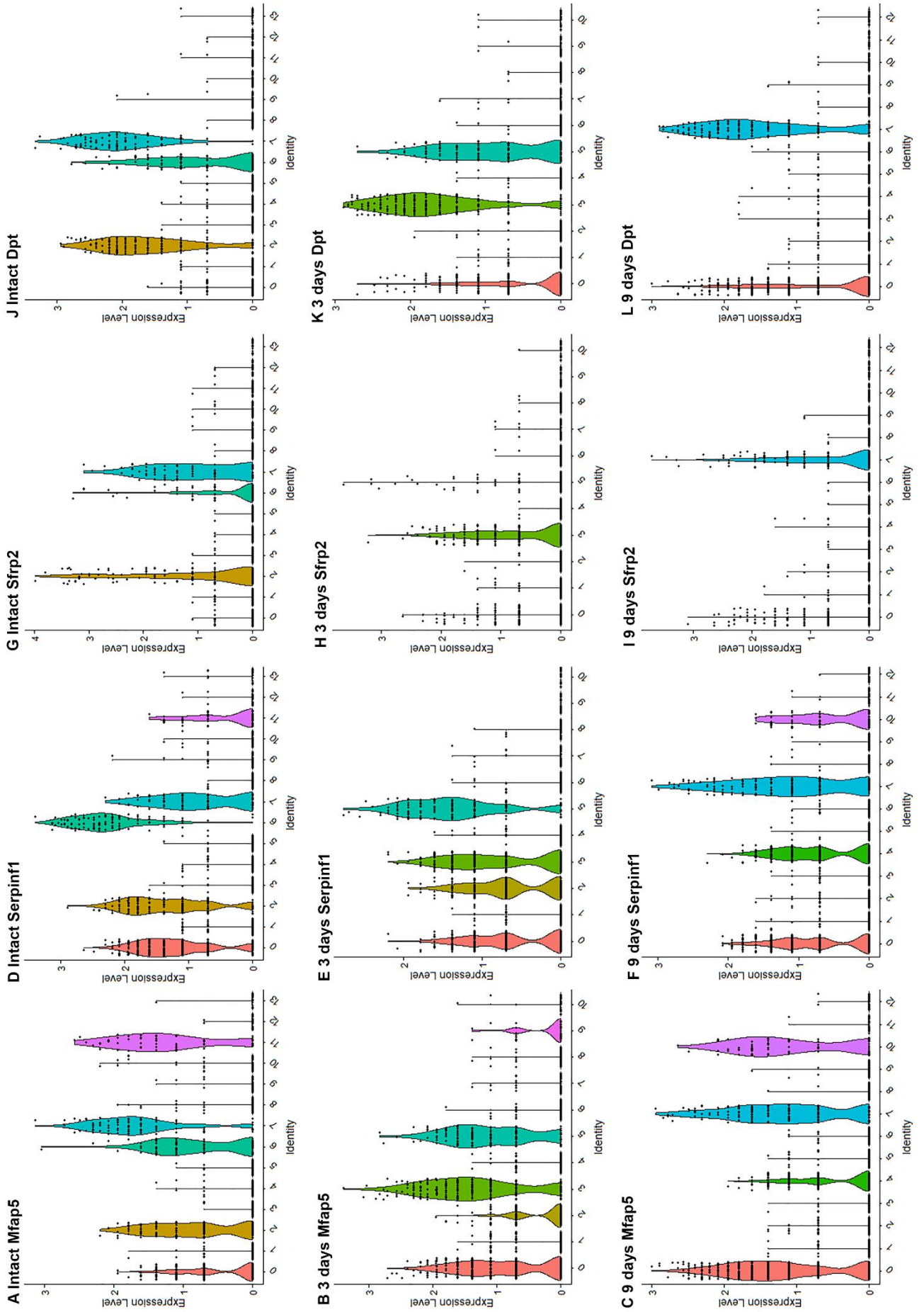


Figure S11

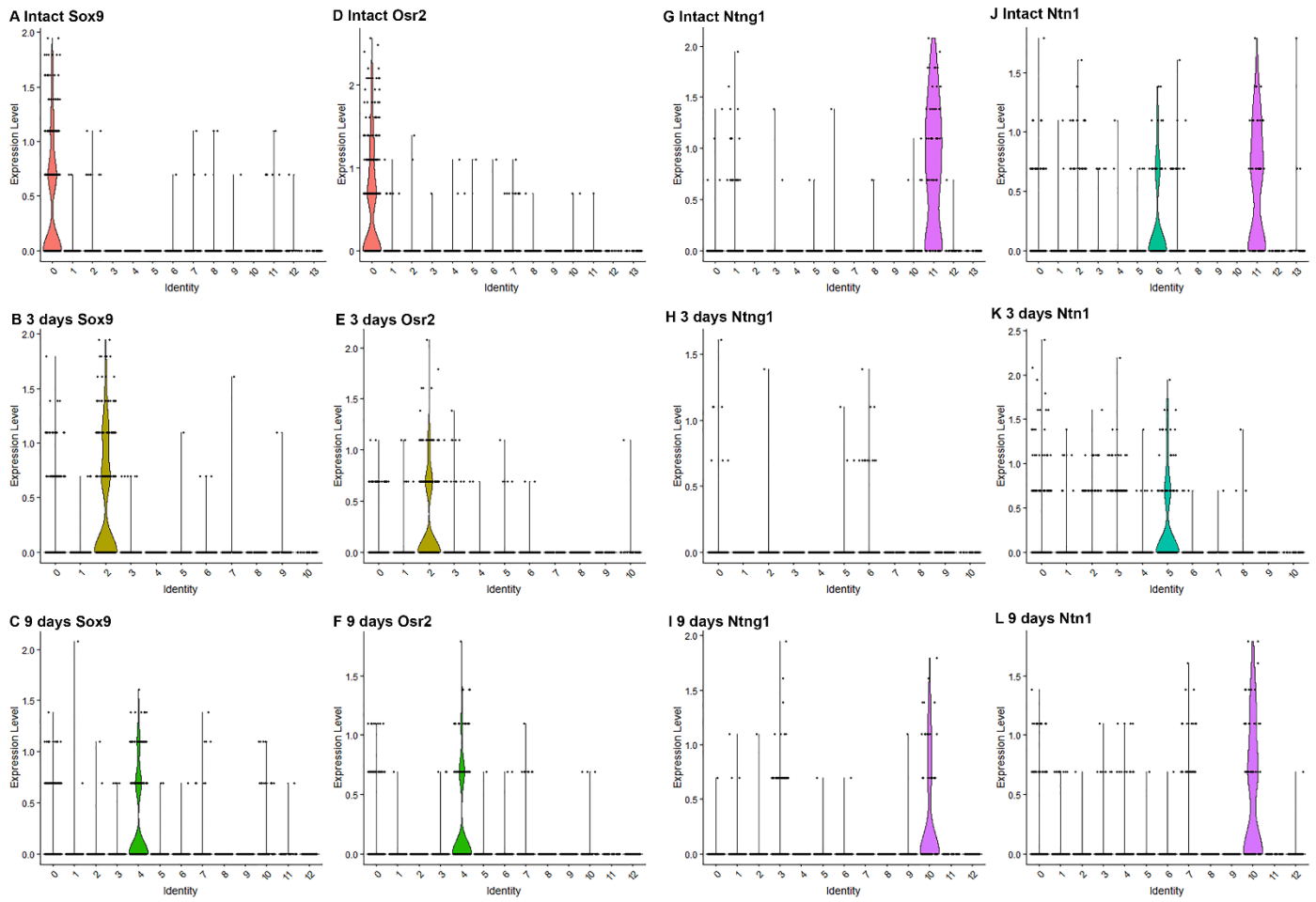


Figure S12

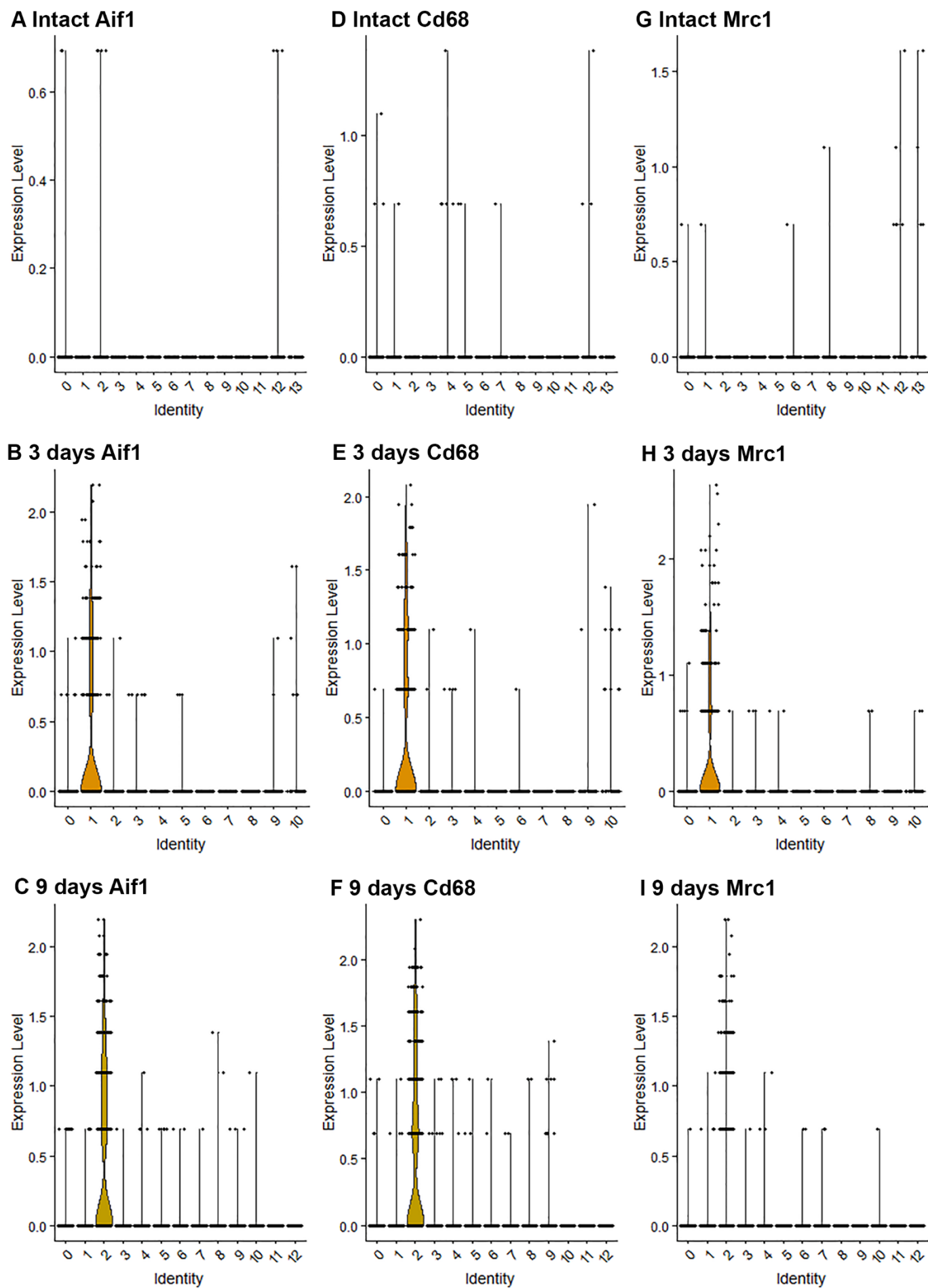


Figure S13

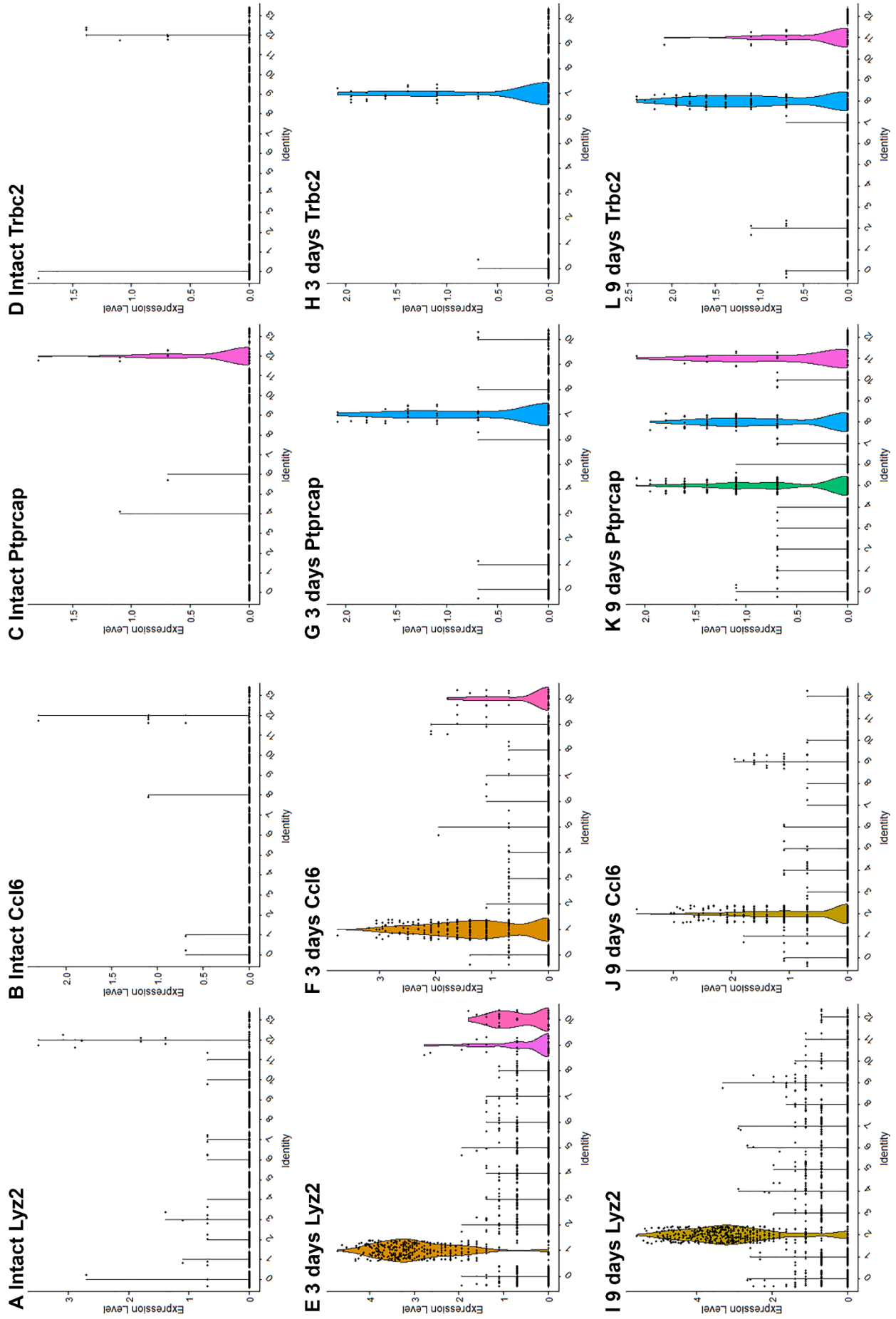


Figure S14

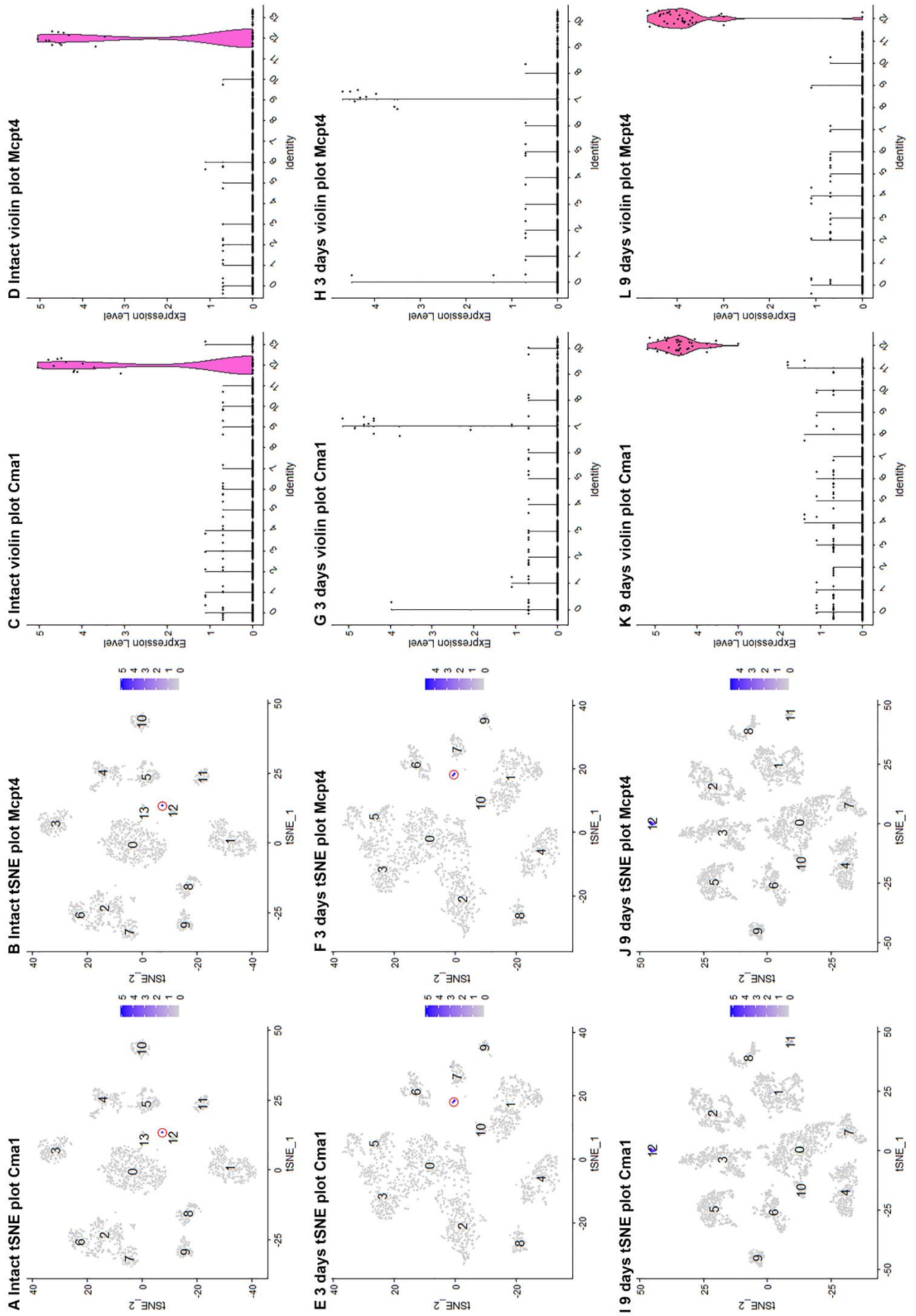


Figure S15

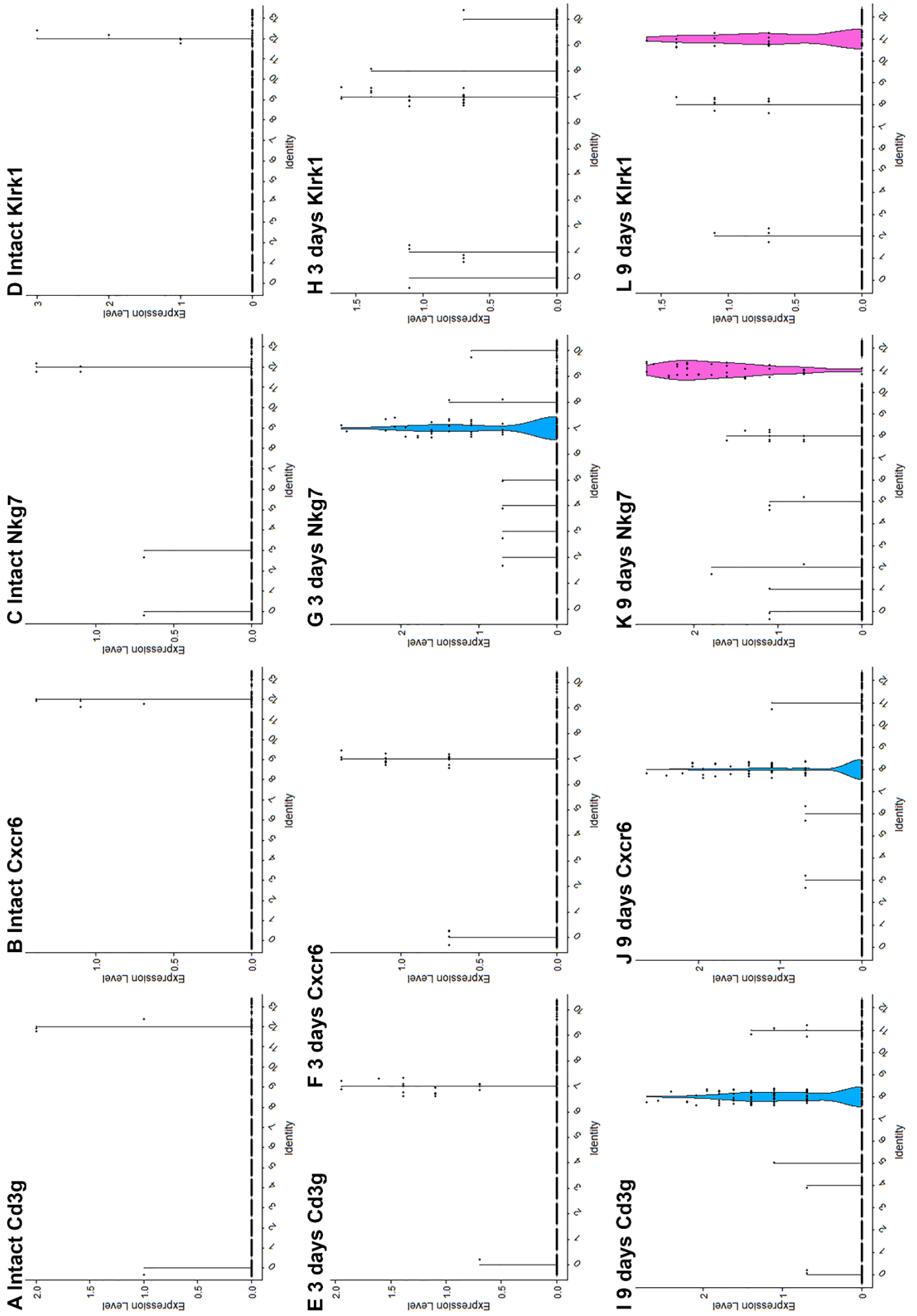


Figure S16

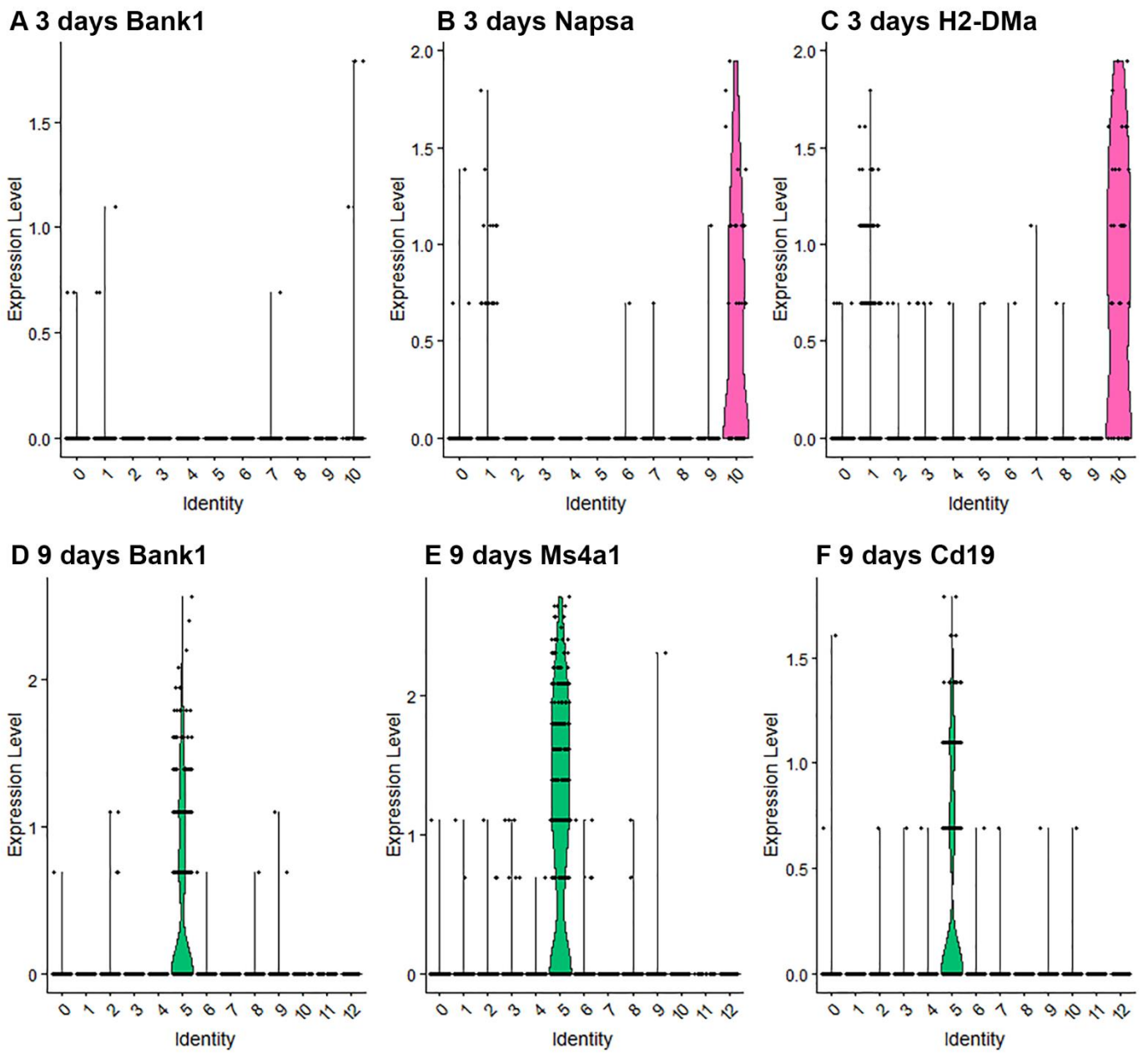


Figure S17

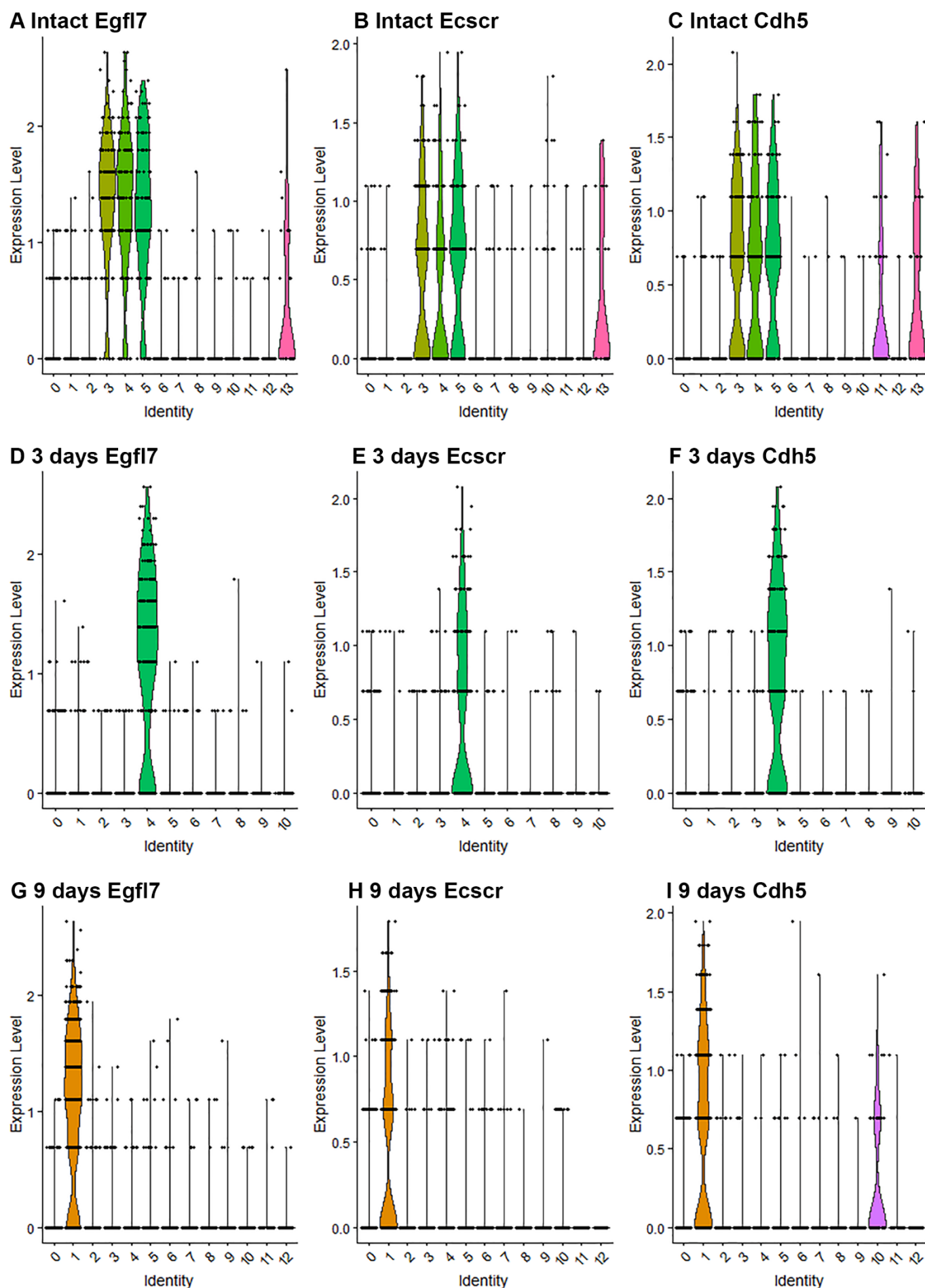


Figure S1 Violin plot of selected marker genes *Lyve1* ($p<0.0001$), *Mmrn1* ($p<0.0001$) and *Flt4* ($p<0.0001$) for lymphatic endothelial cells. (A) Intact *Lyve1*, (B) Intact *Mmrn1*, (C) Intact *Flt4*, (D) 3 days post-injury *Lyve1*, (E) 3 days post-injury *Mmrn1*, (F) 3 days post-injury *Flt4*, (G) 9 days post-injury *Lyve1*, (H) 9 days post-injury *Mmrn1*, (I) 9 days post-injury *Flt4*.

Figure S2 Violin plot of selected marker genes *Pecam1* ($p<0.0001$), *Tie1* ($p<0.0001$) and *Emcn* ($p<0.0001$) for endothelial cells. (A) Intact *Pecam1*, (B) Intact *Tie1*, (C) Intact *Emcn*, (D) 3 days post-injury *Pecam1*, (E) 3 days post-injury *Tie1*, (F) 3 days post-injury *Emcn*, (G) 9 days post-injury, (H) 9 days post-injury *Tie1*, (I) 9 days post-injury *Emcn*.

Figure S3 Violin plot of *Pdgfra* ($p<0.0001$), *Ntn4* ($p<0.0001$) and *Ntng1* ($p<0.0001$). (A) Intact *Pdgfra*, (B) Intact *Ntn4*, (C) Intact *Ntng1*, (D) 3 days post-injury *Pdgfra*, (E) 3 days post-injury *Ntn4*, (F) 3 days post-injury *Ntng1*, (G) 9 days post-injury *Pdgfra*, (H) 9 days post-injury *Ntn4*, (I) 9 days post-injury *Ntng1*.

Figure S4 Violin plot of selected marker genes *Dlk1* ($p<0.0001$), *Mest* ($p<0.0001$), *Cilp* ($p<0.0001$) and *Tnc* ($p<0.0001$) for differentiating fibroblasts. (A) 3 days *Dlk1*, (B) 3 days *Mest*, (C) 3 days *Cilp*, (D) 3 days *Tnc*, (E) 9 days *Dlk1*, (F) 9 days *Mest*, (G) 9 days *Cilp*, (H) 9 days *Tnc*.

Figure S5 Violin plot of selected marker genes *Ptpcr* ($p<0.0001$) and *Cd52* ($p<0.0001$) for all immune cells. (A) Intact *Ptpcr*, (B) 3 days *Ptpcr*, (C) 9 days *Ptpcr*, (D) Intact *Cd52*, (E) 3 days *Cd52*, (F) 9 days *Cd52*.

Figure S6 Violin plot of selected marker genes *Des* ($p<0.0001$) and *Myh11* ($p<0.0001$) for vasculature-associated smooth muscle (VSM) cells, and *Rgs5* ($p<0.0001$) and *Kcnj8* ($p<0.0001$) for pericytes. (A) Intact *Des*, (B) Intact *Myh11*, (C) Intact *Rgs5*, (D) Intact *Kcnj8*, (E) 3 days *Des*, (F) 3 days *Myh11*, (G) 3 days *Rgs5*, (H) 3 days *Kcnj8*, (I) 9 days *Des*, (J) 9 days *Myh11*, (K) 9 days *Rgs5*, (L) 9 days *Kcnj8*.

Figure S7 Violin plot of *ErbB3* ($p<0.0001$), *S100b* ($p<0.0001$) and *Ngfr* ($p<0.0001$). (A) Intact *ErbB3*, (B) Intact *S100b*, (C) Intact *Ngfr*, (D) 3 days post-injury *ErbB3*, (E) 3 days post-injury *S100b*, (F) 3 days post-injury *Ngfr*, (G) 9 days post-injury *ErbB3*, (H) 9 days post-injury *S100b*, (I) 9 days post-injury *Ngfr*.

Figure S8 Violin plot of selected marker genes *Sox10* ($p<0.0001$) and *Plp1* ($p<0.0001$) for Schwann cells. (A) Intact *Sox10*, (B) 3 days post-injury *Sox10*, (C) 9 days post-injury *Sox10*, (D) Intact *Plp1*, (E) 3 days post-injury *Plp1*, (F) 9 days post-injury *Plp1*, (G) Intact *Mbp* ($p<0.0001$), (H) Intact *mag* ($p<0.0001$), (I) Intact *Cdh2* ($p<0.0001$), (J) Intact *Mpz* ($p<0.0001$), (K) Intact *Egr2* ($p<0.0001$), (L) Intact *L1cam* ($p<0.0001$).

Figure S9 Violin plot for *Smoc2* and *Apod*. *Smoc2* and *Apod* are highly expressed in endoneurial fibroblasts and they are not marker genes for nmSCs. (A) Intact *Smoc2*, (B) Intact *Apod*, (C) 3 days post-injury *Smoc2*, (D) 3 days post-injury *Apod*, (E) 9 days post-injury *Smoc2*, (F) 9 days post-injury *Apod*.

Figure S10 (A-E) Violin plot of selected marker genes *Mfap5* ($p<0.0001$) and *Serpinf1* ($p<0.0001$) for fibroblasts. (A) Intact *Mfap5*, (B) 3 days post-injury *Mfap5*, (C) 9 days post-injury *Mfap5*, (D) Intact *Serpinf1*, (E) 3 days post-injury *Serpinf1*, (F) 9 days post-injury *Serpinf1*. (G-L) Violin plot of selected marker genes *Sfrp2* ($p<0.0001$) and *Dpt* ($p<0.0001$) for epineurial fibroblasts, (G) Intact *Sfrp2*, (H) 3 days post-injury *Sfrp2*, (I) 9 days post-injury *Sfrp2*, (J) Intact *Dpt*, (K) 3 days post-injury *Dpt*, (L) 9 days post-injury *Dpt*.

Figure S11 Violin plot of selected marker genes for endoneurial fibroblasts Sox9 ($p<0.0001$) and Osr2 ($p<0.0001$), and perineurial cells Dkk3 ($p<0.0001$) and Ntn1 ($p<0.0001$). (A) Intact Sox9, (B) 3 days Sox9, (C) 9 days Sox9, (D) Intact Osr2, (E) 3 days Osr2, (F) 9 days Osr2, (G) Intact Ntng1, (H) 3 days Ntng1, (I) 9 days Ntng1, (J) Intact Ntn1, (K) 3 days Ntn1, (L) 9 days Ntn1.

Figure S12 Violin plot of selected marker genes Aif1 ($p<0.0001$), Cd68 ($p<0.0001$) and Mrc1 ($p<0.0001$) for macrophages. (A) Intact Aif1, (B) 3 days Aif1, (C) 9 days Aif1, (D) Intact Cd68, (E) 3 days Cd68, (F) 9 days Cd68, (G) Intact Mrc1, (H) 3 days Mrc1, (I) 9 days Mrc1.

Figure S13 Violin plot of selected marker genes Lyz2 ($p<0.0001$) and Ccl6 ($p<0.0001$) for myeloid cells, Ptprcap ($p<0.0001$) and Trbc2 ($p<0.0001$) for Lymphoid cells. (A) Intact Lyz2, (B) Intact Ccl6, (C) Intact Ptprcap, (D) Intact Trbc2, (E) 3 days post-injury Lyz2, (F) 3 days post-injury Ccl6, (G) 3 days post-injury Ptprcap, (H) 3 days post-injury Trbc2, (I) 9 days post-injury Lyz2, (J) 9 days post-injury Ccl6, (K) 9 days post-injury Ptprcap, (L) 9 days post-injury Trbc2.

Figure S14 tSNE and Violin plot of selected marker genes Cma1 ($p<0.0001$) and Mcpt4 ($p<0.0001$) for mast cells. (A) Intact tSNE plot Cma1, red circle indicates mast cells. (B) Intact tSNE plot Mcpt4, red circle indicates mast cells. (C) Intact violin plot Cma1, (D) Intact violin plot Mcpt4, (E) 3 days post-injury tSNE plot Cma1, red circle indicates mast cells. (F) 3 days post-injury tSNE plot Mcpt4, red circle indicates mast cells. (G) 3 days post-injury violin plot Cma1, (H) 3 days post-injury violin plot Mcpt4, (I) 9 days post-injury tSNE plot Cma1, (J) 9 days post-injury tSNE plot Mcpt4, (K) 9 days post-injury violin plot Cma1, (L) 9 days post-injury violin plot Mcpt4days Ms4a1.

Figure S15 Violin plot of selected marker genes Cd3g ($p<0.0001$) and Cxcr6 ($p<0.0001$) for T cells, Nkg7 ($p<0.0001$) and Klrk1 ($p<0.0001$) for natural killer (NK) cells. (A) Intact Cd3g, (B) Intact Cxcr6, (C) Intact Nkg7, (D) Intact Klrk1, (E) 3 days post-injury Cd3g, (F) 3 days post-injury Cxcr6, (G) 3 days post-injury Nkg7, (H) 3 days post-injury Klrk1, (I) 9 days post-injury Cd3g, (J) 9 days post-injury Cxcr6, (K) 9 days post-injury Nkg7, (L) 9 days post-injury Klrk1.

Figure S16 Violin plot of selected marker genes Bank1 ($p<0.0001$), Cbfa2t3 ($p<0.0001$), Taok3 ($p<0.0001$), Ms4a1 ($p<0.0001$) and Cd19 ($p<0.0001$) for B cells. (A) 3 days post-injury Bank1, (B) 3 days post-injury Cbfa2t3, (C) 3 days post-injury Ms4a1, (D) 9 days post-injury Bank1, (E) 9 days post-injury Ms4a1, (F) 9 days post-injury Cd19.

Figure S17 Violin plot of selected marker genes Egfl7 ($p<0.0001$), Ecscr ($p<0.0001$) and Cdh5 ($p<0.0001$) for endothelial cells. (A) Intact Egfl7, (B) Intact Ecscr, (C) Intact Cdh5, (D) 3 days post-injury Egfl7, (E) 3 days post-injury Ecscr, (F) 3 days post-injury Cdh5, (G) 9 days post-injury Egfl7, (H) 9 days post-injury Ecscr, (I) 9 days post-injury Cdh5.