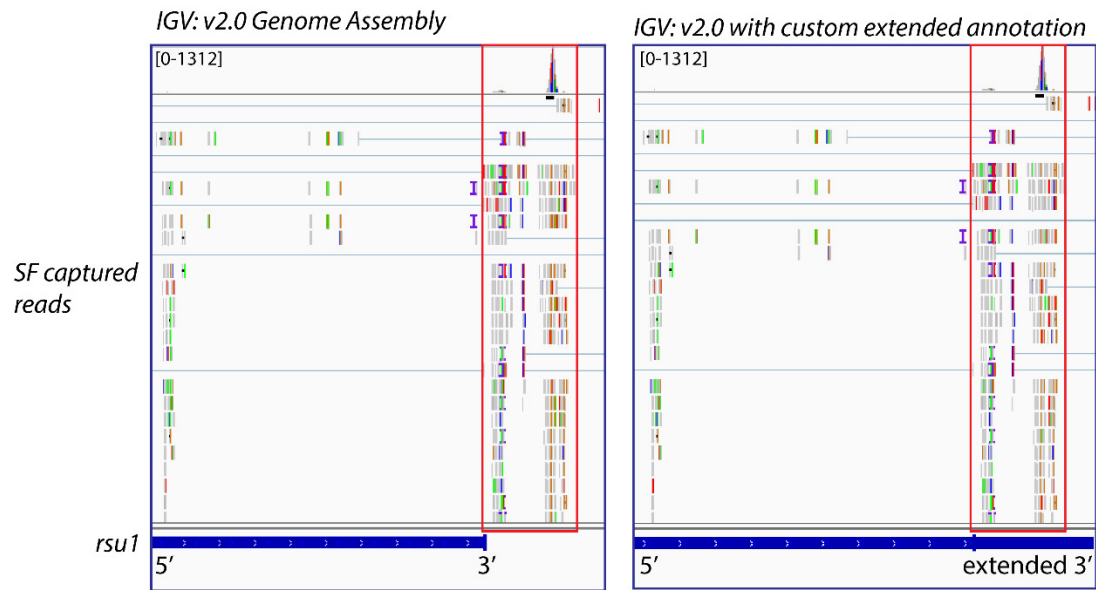
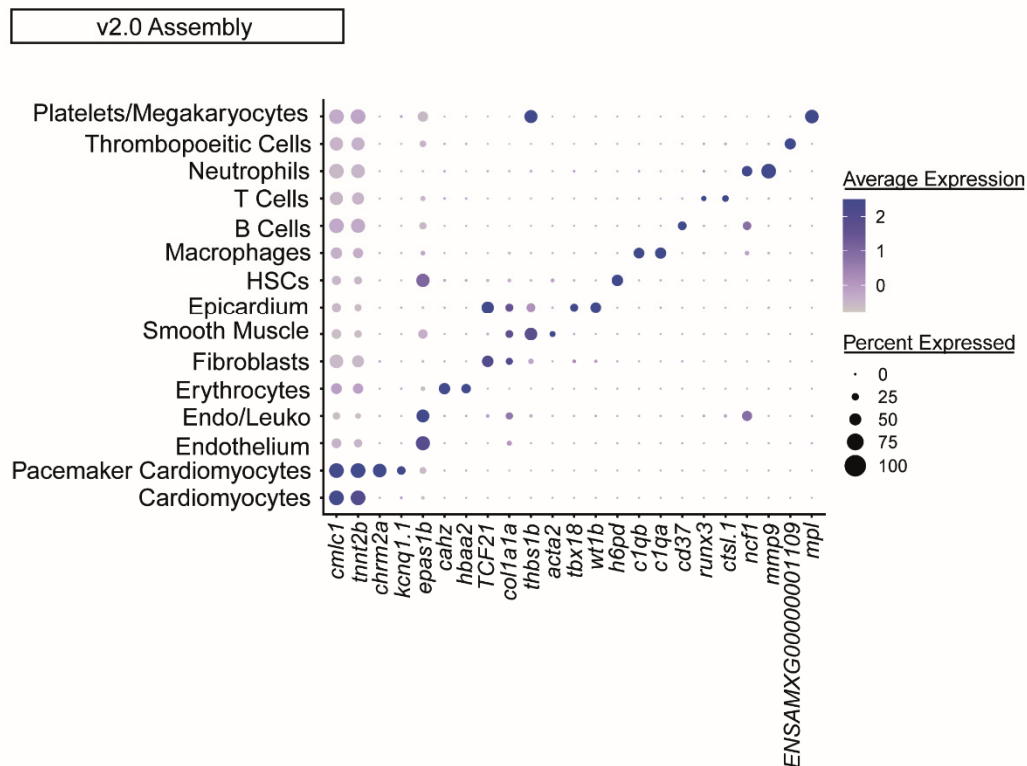
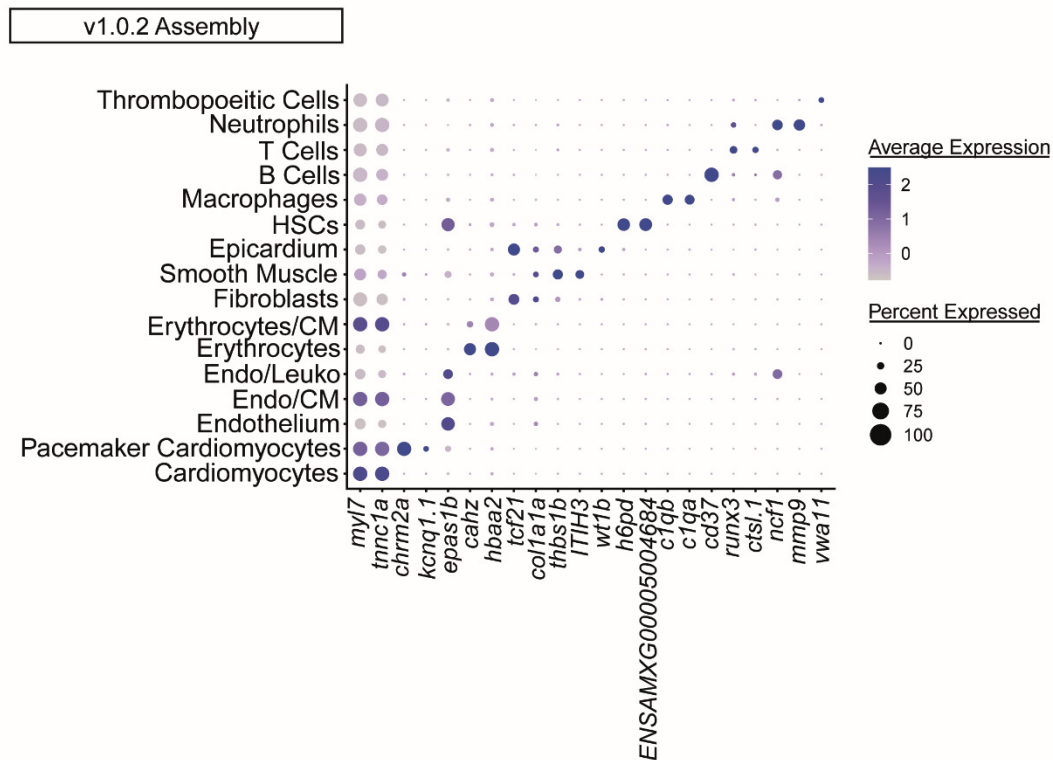


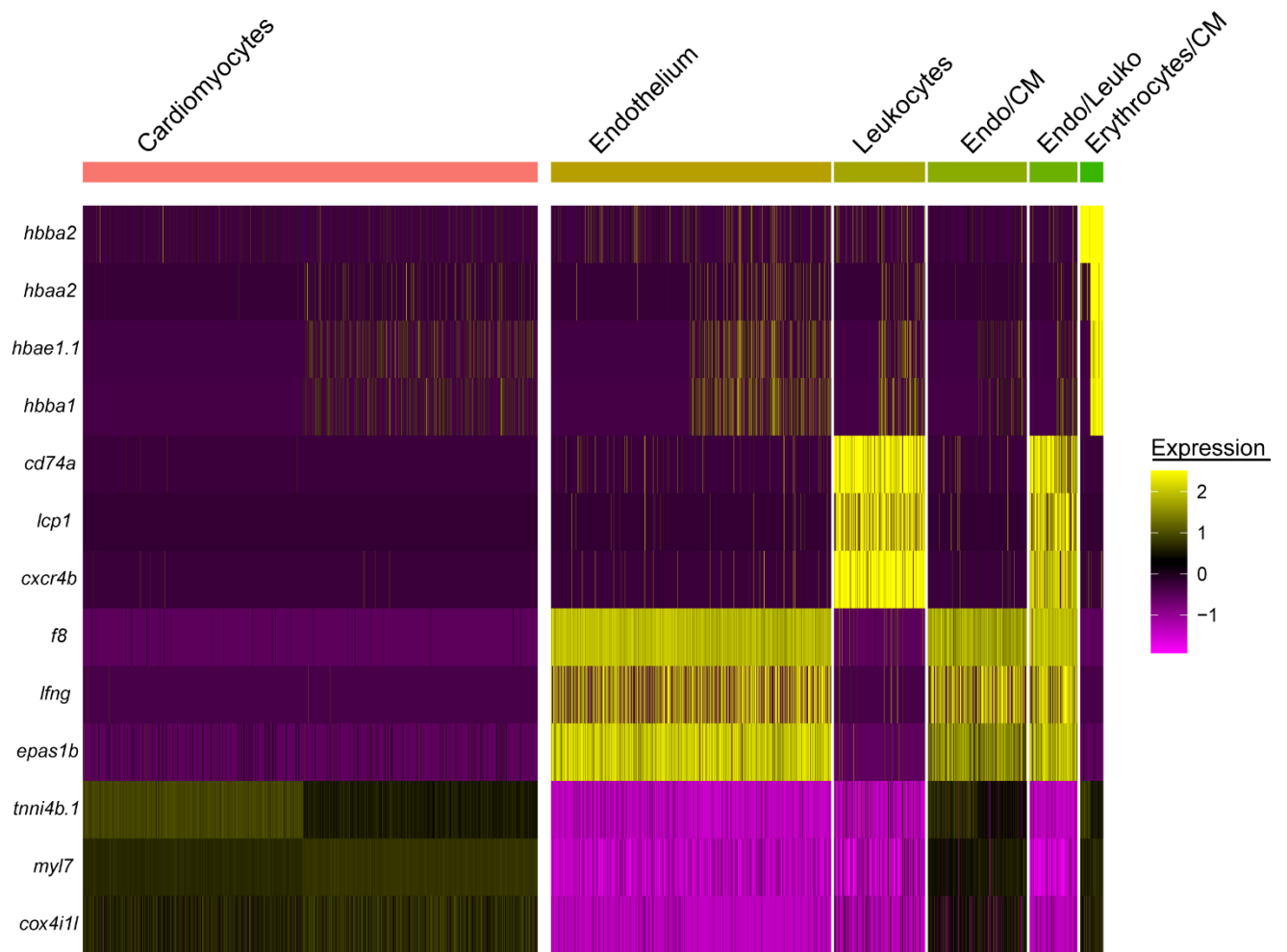
3' UTR Extension



Supplementary Figure S1: Custom 3' UTR extension enables transcript capture for genes with incomplete 3'UTR annotation. IGV browser was used to compare aligned reads from the *possorted_genome_bam.bam* file using v2.0 gtf file available from Ensembl (v103) and our the custom extended gtf file.



Supplementary Figure S2: Identification of the *A. mexicanus* major cardiac cell types. DotPlot showing example genes used to determine the identity of the different cell clusters when aligned to the respective v1.0.2 and v2.0 assemblies.



Supplementary Figure S3: The integrated dataset enabled more accurate identification of doublets. Heatmap of the transcriptional profile of identified doublet clusters showing that cells from each doublet cluster expressed top genes from multiple cardiac cell types. Cardiomyocytes: cluster 0; Endothelium: cluster 5; Leukocytes: cluster 20; Endo/CM: cluster 18; Endo/Leuko: cluster 23; Erythrocytes/CM: cluster 27

Supplementary Table S1: Consistent Gene Symbol Markers for the major cardiac cell types. The listed genes are the results of FindConservedMarkers, representing cell type markers that are present with the same gene symbol in both genome assemblies. We present this list of genes as a tool for other *A. mexicanus* researchers that can be used, in addition to the genome assembly-specific cell markers to enable accurate identification of cardiac cell types.

Cell Type	Consistent Markers
Cardiomyocytes	<i>mia</i> <i>ndufc2</i> <i>ckma</i> <i>cox4i1l</i> <i>ndufb4</i> <i>sat1b</i> <i>csrn1b</i> <i>hadhb</i> <i>zgc:195173</i> <i>NDUFB1</i> <i>COX7A2</i> <i>msna</i> <i>jdp2b</i> <i>fosab</i> <i>lyrm2</i> <i>zgc:86709</i> <i>myct1a</i> <i>akap12b</i> <i>pdgfra</i> <i>kdr</i>
B cells	<i>cd37</i> <i>zgc:194275</i> <i>LYN</i> <i>si:dkey-24p1.1</i> <i>cxcr4b</i> <i>ncf1</i> <i>cd74a</i> <i>lyn.1</i> <i>ikzf1</i> <i>p2ry10</i> <i>si:dkey-88e18.2</i> <i>rel</i> <i>rgs13</i> <i>gpr18</i> <i>laptm5</i> <i>pfn1</i> <i>cst3</i> <i>pik3cd</i>

	<i>dusp2</i> <i>mb</i>
Endothelium	<i>ndufc2</i> <i>ckma</i> <i>cox4i1l</i> <i>ndufb4</i> <i>wasf3b</i> <i>csrnp1b</i> <i>hadhb</i> <i>SBSPON</i> <i>zgc:195173</i> <i>NDUFB1</i> <i>msna</i> <i>fosab</i> <i>hpcal1</i> <i>zgc:86709</i> <i>myct1a</i> <i>akap12b</i> <i>pdgfra</i> <i>kdr</i> <i>hsa1b</i> <i>ppdpfa</i>

Epicardium	<i>wt1b</i> <i>sftpb</i> <i>nol4lb</i> <i>stmn1a</i> <i>lcp1</i> <i>lsp1b</i> <i>rgs13</i> <i>flt3</i> <i>unc93b1</i> <i>cd74a</i> <i>rnaset2l</i> <i>cxcr4b</i> <i>laptm5</i> <i>zgc:66024</i> <i>arpc1b</i> <i>npr3</i> <i>PTPRC</i> <i>spi1b</i> <i>zgc:194312</i> <i>colec11</i>
Fibroblasts	<i>pltp</i> <i>thbs1a</i> <i>col12a1a</i> <i>ccl25b</i> <i>c6</i> <i>flnb</i> <i>rbp4</i> <i>hmx4</i> <i>clec19a</i> <i>fbln1</i> <i>ebf3a.1</i> <i>dcn</i> <i>si:ch1073-459j12.1</i> <i>apoeb</i> <i>nkx3.3</i> <i>mdka</i> <i>krt18b</i> <i>clu</i> <i>CPZ</i> <i>pamr1</i>

Haematopoietic Stem Cells	<i>efnb1</i> <i>slc16a10</i> <i>igfbp1a</i> <i>h6pd</i> <i>rgs5a</i> <i>plvapa</i> <i>cpb1</i> <i>igfbp7</i> <i>CASQ2</i> <i>meox2a</i> <i>meox1</i> <i>tbx3a</i> <i>slco1d1</i> <i>slc26a10</i> <i>si:ch211-251b21.1</i> <i>gpr156</i> <i>ext1c</i> <i>PRSS23</i> <i>abcb4</i> <i>ca16b</i>
Pacemaker Cardiomyocytes	<i>ckbb</i> <i>sema3bl</i> <i>chrn2a</i> <i>pflkb</i> <i>KCNH7</i> <i>ptn</i> <i>smtnl1</i> <i>kcnq1.1</i> <i>myoz1a</i> <i>col18a1a</i> <i>fbn2a</i> <i>sema3fb</i> <i>tnnt3b</i> <i>st3gal2</i> <i>tnnc1b</i> <i>tbx5a</i> <i>nxt2</i> <i>twf2b</i> <i>lgals2a</i> <i>EPHB3</i>

Macrophages	<i>si:dkey-5n18.1</i> <i>MPEG1</i> <i>serping1</i> <i>f13a1b</i> <i>PTPRC</i> <i>c1qb</i> <i>c1qc</i> <i>c1qa</i> <i>ETS2</i> <i>pfn1</i> <i>RAB20</i> <i>spi1a</i> <i>itgam</i> <i>cxcl8a</i> <i>card9</i> <i>cxcr4b</i> <i>csf1ra</i> <i>cd74a</i> <i>lcp1</i> <i>spi1b</i>
Neutrophils	<i>gramd1c</i> <i>adam8a</i> <i>alox5ap</i> <i>cebp1</i> <i>ltb4r</i> <i>c6ast1</i> <i>st8sia4</i> <i>slc2a3b</i> <i>mmp25b</i> <i>s1pr4</i> <i>gpr84</i> <i>cass4</i> <i>acsl4b</i> <i>card9</i> <i>prom2</i> <i>wu:fj16a03</i> <i>ccdc88b</i> <i>fut7</i> <i>cyba</i> <i>tprg1</i>

Platelets/Megakaryocytes	<i>mpl</i> <i>ly97.3</i> <i>si:ch73-309g22.1</i> <i>zgc:86896</i> <i>itprid1</i> <i>si:ch211-103n10.5</i> <i>btk</i> <i>itga2.2</i> <i>gata1a</i> <i>fermt3b</i> <i>si:ch211-234h8.7</i> <i>plac8l1</i> <i>dennd2c</i> <i>thbs1b</i> <i>scinla</i> <i>pfn1</i> <i>blk</i> <i>si:busm1-57f23.1</i> <i>pfkfb3</i> <i>f2r</i>
Erythrocytes	<i>si:ch211-103n10.5</i> <i>wu:fj16a03</i> <i>slc7a8b</i> <i>mgst1.2</i> <i>plac8l1</i> <i>nt5c2l1</i> <i>gp9</i> <i>cahz</i> <i>nmt1b</i> <i>slc4a1a</i> <i>epor</i> <i>rhag</i> <i>gata1a</i> <i>rex1bd</i> <i>blvrb</i> <i>tmod4</i> <i>fam117ab</i> <i>creg1</i> <i>ybx1</i> <i>slc25a5</i>

Thrombopoietic Cells

ca4b
cxcr2
ankrd22
f5
ly97.3
cass4
zgc:136605
wasb
sla1a
cnr2
gpr183a
stx11a
CKLF
fut7
ltb4r
plek
arhgap15
wu:fj16a03
scin
lsp1b