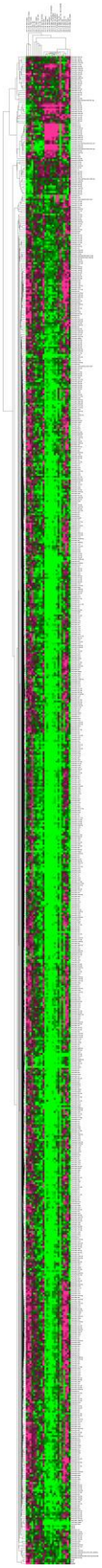
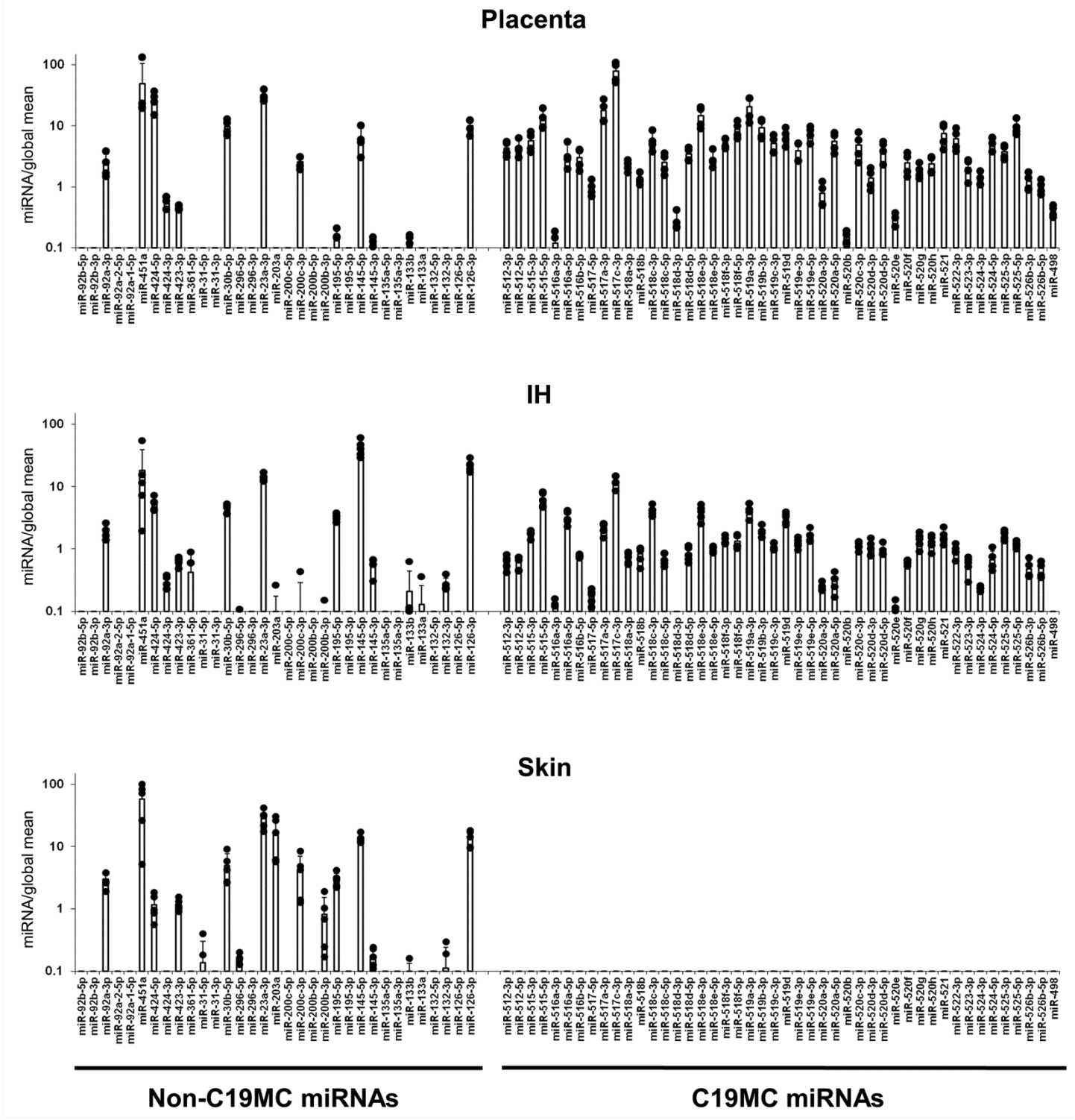
SUPPLEMENTARY DATA

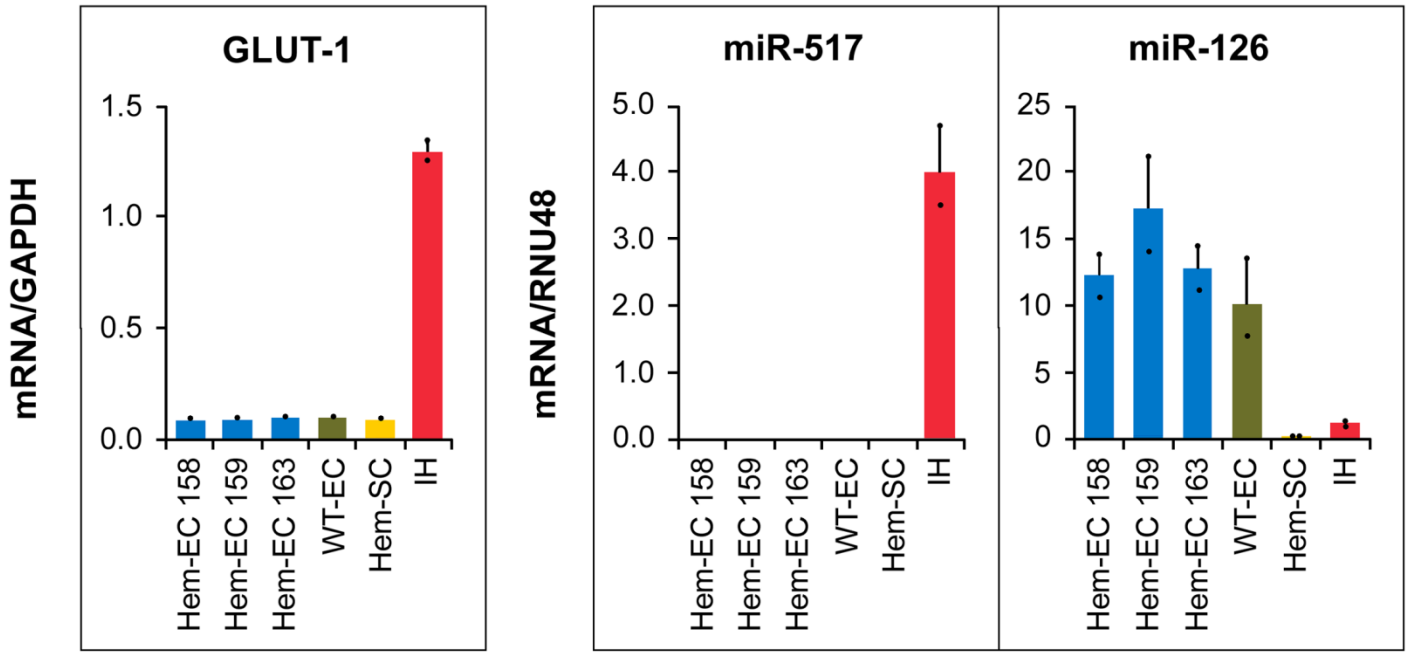


Supplementary Figure 1 (double click to enlarge). MicroRNA array profiling of infantile hemangioma, lymphatic malformation, and skin. Unsupervised hierarchical clustered heatmap generated from the nCounter Human v2 miRNA Expression Assay Kit (Nanostring) comparing the miRNA transcriptomes of infantile hemangioma (IH, *n* = *11*), lymphatic malformation (LM, *n* = *8*), and skin adjacent to IH tumors (Skin, *n* = *5*).

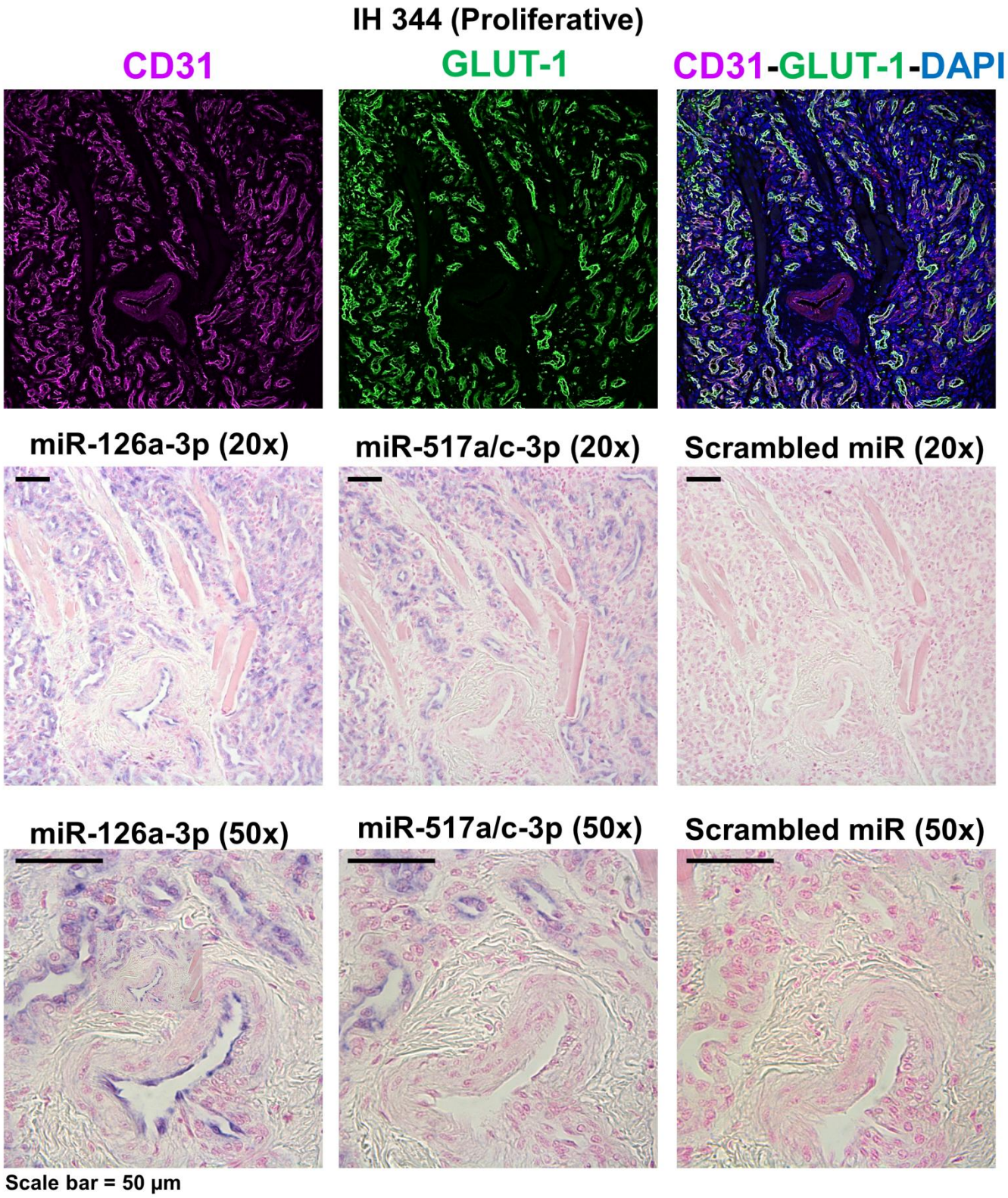


Supplementary Figure 2. C19MC miRNAs are expressed in placenta and IH. RNA was purified from cryopreserved tissue from placenta (*n=5*), IH (*n=5*), and skin (*n=5*) and reverse transcribed to cDNA. Individual qRT-PCR assays were performed for the indicated miRNA targets. C19MC miRNAs (right) and non-C19MC miRNAs (left) are labeled at the bottom of the figure. Expression levels are illustrated logarithmically as a fold change in expression compared to the global mean of miRNA

sequences detected in all samples. The Y axis represents relative miRNA compared to the global mean of all miRNAs tested. Data points represent miRNA expression levels of individual patients and error bars represent standard deviations.



Supplementary Figure 3. Infantile hemangioma (IH) derived endothelial cells (Hem-EC) or stem cells (Hem-SC) grown in culture lose expression of GLUT-1 and miR-517. Endothelial cells and stem cells were derived from infantile hemangioma tumors by Huang et al and obtained by our laboratory (27). Three separately derived Hem-EC populations and one Hem-SC population were analyzed by qRT-PCR for expression of GLUT-1, miR-517a/c-3p, and miR-126a-3p. Wild type retinal endothelial cells (WT-EC, ATCC) and fresh IH tissue (IH) were used as controls. Only IH tissue expressed GLUT-1 and miR-517a/c-3p. IH, Hem-EC and WT-EC expressed the EC specific miR-126-3p. The Y axis represents relative mRNA or miRNA compared to levels of GAPDH or RNU48, respectively. Individual data points represent experimental duplicate samples prepared from separately grown cultures and error bars represent standard deviations.



Supplenentary Figure 4. Paraffin sections of proliferative IH (9 months old) were labeled with immunofluorescent antibodies to endothelial CD31 and IH endothelial GLUT-1 and overlaid DAPI

images indicate GLUT-1+CD31+ endothelial cells (top row). Adjacent sections were exposed to in situ hybridization probes to endothelial miR-126a-3p and C19MC miRNAs 517a/c-3p as well as a scrambled miRNA control (bottom two rows). Nuclei were stained with Fast Red.