

## **Description of Additional Supplementary Data Files**

**Supplementary Data 1.** Cluster-specific genes differentially expressed in HSC-supportive AGM-EC (cluster 1) or non-supportive AGM-EC (Cluster 2), ordered by specificity. (Related to Fig. 1c-e).

**Supplementary Data 2.** Gene ontology terms (biological processes and molecular functions) associated with cluster-specific genes expressed in HSC-supportive AGM-EC. List of cluster-specific genes used for aggregated gene scores based on gene ontology terms. (Related to Fig. 1d).

**Supplementary Data 3.** Genes differentially expressed over pseudotime representing the EC/HE to hematopoietic transition, ordered by q-value. (Related to Fig. 3d-e).

**Supplementary Data 4.** Genes differentially expressed over pseudotime representing HSC to HPC differentiation, ordered by q-value. (Related to Fig. 4h).

**Supplementary Data 5.** List of ligand-receptor interactions between primary AGM-derived arterial EC or HSC-supportive AGM-EC stroma and primary AGM-derived HE/pre-HSC or in vitro generated HSC (Related to Fig. 5).

**Supplementary Data 6.** Signature/marker genes from published studies of HE, pre-HSC, AGM HSC, and adult HSC used for gene-set scores (Related to Fig. 3).