

Supplementary Materials

Endothelial dysfunction as a driver of microvascular injury in diabetic cardiomyopathy

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Supplementary Table 1. Functions of Overlapping DEG Classification

Gene	GO Terms (Biological function)	KEGG pathway	DCM role	Evidence for additional functions	Citations
<i>Cd36</i>	Cell adhesion, lipid transport	PPAR signaling pathway	Lipid metabolism, angiogenesis	Angiogenesis via VEGF	Zhang <i>et al.</i> ^[14] Glatz <i>et al.</i> ^[55]
<i>Igfbp5</i>	Growth factor binding, cell proliferation	IGF signaling pathway	Fibrosis, inflammation	Fibroblast activation (MLK-1), cytokine induction	Zhang <i>et al.</i> ^[14] Song <i>et al.</i> ^[25] Hu <i>et al.</i> ^[54]

<i>Hsp (Hspa1a, Hspa1b, Hsp90aa1, Hsp90ab1)</i>	Chaperone, stress response	Protein processing in ER, MAPK, PI3K-AKT	Oxidative stress, inflammation	Anti-inflammatory properties	Su <i>et al.</i> ^[22] Cohen <i>et al.</i> ^[29] Zygmunciak <i>et al.</i> ^[30] Bellini <i>et al.</i> ^[56]
<i>Ahsa1/Ahsa2</i>	Chaperone cofactor, stress response	Protein processing in ER	Oxidative stress, inflammation	HSP90 modulation	Su <i>et al.</i> ^[22] Cohen <i>et al.</i> ^[29]
<i>Ets1</i>	Transcription regulation	Ras signaling, cellular senescence	Angiogenesis, fibrosis	ECM remodeling	Zhang <i>et al.</i> ^[14] Wang <i>et al.</i> ^[39]
<i>Stat5a/Stat5b</i>	DNA binding, transcription regulation	AGE/RAGE, JAK/STAT, chemokine signaling	Inflammation, angiogenesis	Angiogenesis regulation	Su <i>et al.</i> ^[22]

Supplementary Table 1 Functions of overlapping DEGs in DCM. This table summarizes biological functions (GO terms), KEGG pathways, and established roles in DCM, with additional functions supported by further evidence. DEG, differentially expressed genes; DCM, diabetic cardiomyopathy; GO, gene ontology; KEGG, Kyoto encyclopedia of genes and genomes.

Supplementary Table 2. Accession Number for ScRNAseq Studies

Citation	Tissue	Species	Accession number (GEO/SRA/ArrayExpress/GSA)	Notes
Zhang <i>et al.</i> ^[14]	Heart	Mouse	To be located	Not reported in paper

Su <i>et al.</i> ^[22]	Heart	Mouse	PRJNA1069235	Available
Li <i>et al.</i> ^[24]	Heart	Mouse	CRA007245	Available
Wen & Wang [23]	Heart	Mouse	GSE213337	Available
Cohen <i>et al.</i> ^[29]	Heart	Mouse	E-MTAB-11940	Available
Guo <i>et al.</i> ^[31]	Heart	Mouse	To be located	Not reported in paper
Zhao <i>et al.</i> ^[61]	Heart and aorta	Mouse	GSE169332	Available

Supplementary Table 2 Accession number of scRNAseq datasets referenced in this review. This table includes studies on scRNAseq used in the manuscript, with information on tissue source, species, accession number (GEO, SRA, ArrayExpress, or GSA), and the data availability. “To be located” indicates that the accession number was not reported in the original article. ScRNAseq, single cell RNA sequencing; GEO, gene expression omnibus; SRA, sequence read archive; ArrayExpress, array express archive of functional genomics data; GSA, genome sequence archive.