

Table S1: The PRDRMS of CAD in HSSNs.

Method	Module	Genes of the module	Localization	JT test P-values
Our Method	M1	NLRP1 PYDC1 PYCARD MEFV CARD18 AIM2	Cytoplasm	0.0293
	M2	MYL12B MYL9 SHROOM1 MYL6B MYLPF MYO1F MYBPC3 MYH4 MYH6 MYH8 MYH11 MYL2 MYL3 MYL4 PPP1R12A PPP1R12B SHROOM4 ROCK1 CDC42BPA MYH13 MYOM1 ROCK2	Cytoplasm	0.002
	M3	EDNRB GNA11 GNAQ PMP2 PTGER3 RGS2 RGS4 TRHR TUB	Cytoplasm	0.0097
	M4	NCSTN NOTCH2 NOTCH3 NOTCH4 APH1A PLD1 PSENEN PSEN1 PSEN2 SORT1	Endoplasmic reticulum	0.0414
	M5	SMC4 KIF20A NDC80 CENPA SMC2 KIF2C KLF6 NCAPD3 NCAPH DAPK2 RACGAP1 BIRC5 INCENP ATF3 NSUN2 CDCA8 NCAPG SRPK1 PRC1 AURKB PTTG1 KIF23 NCAPD2	Nucleus	0.0435
	M6	PRDX4 TNFSF10 TNFRSF10D TNFRSF10C	Nucleus	0.0232
	M7	LTB4R HMHA1 ARG1 LBP NT5E VIPR2	Plasma membrane	0.0032
	M8	CYBB NCF2 NCF4 DUOX2 NOX3 NCF1	Plasma membrane	0.0097
	M9	CR1 ENPEP ANPEP IL1B IL1R1 IL1RAP IL12RB2 IL1R2 CHRFB7A	Plasma membrane	0.0377
	M10	GNB5 CNGA1 CNGA3 GNAT1 GNAT2 GNGT2 RGS9BP PDE6A PDE6C PDE6B CNGB3 RGS9	Plasma membrane	0.0385
	M11	FAS FASLG BID MAP2K4 TNFSF10 FADD TNFRSF10D TNFRSF10C TNFRSF10B TNFRSF10A	Plasma membrane	0.0428
	PM1	EGFR MAPK3 MAPK1 JUN AR PTK2B RHOA ROCK1 TNFRSF10D PRKACA MAX IL1B PRKCA AKT1 MYBPC3 FADD RAC1 CTNNB1 NFKB1 SMAD3 MAPK8 HIF1A CASP3 TP53 FAS	Cytoplasm	0.0407
	PM2	FN1 NCSTN BACE1 ABL1 APP LRP1	Endoplasmic reticulum	0.0359

		NOTCH2 NOTCH3 NOTCH4 PSEN1	c reticulum	
		SORT1 SHC1 TP53 TP63 BCAR1		
PageRank	PM3	RASGRF1 RASGRF2 RYR2 CACNA1E CACNA1S	Endoplasmic reticulum	0.0248
	PM4	ITGB1 PRL VEGFA IFNAR2 IL1B FGF2 CCL2 TGFB1 PHGDH ITGA1 C3 TNF LBP CSF2 MMP9 CDC42 IL6 IL4 IFNG F2 IL2 ITGAV STAT3 ROCK1 CTNNB1	Extracellular space	0.0471
	PM5	CDKN1A MAPK8 AKT1 ESR1 JUN NFKB1 EGFR MAPK1 PRKACA RHOA IFNG MAPK3 SMAD4 CTNNB1 AR PRKCA TP53 IL1B SMAD3 MYC TP63 CASP3 NOTCH3 CREBBP STK17A	Nucleus	0.0216
	PM6	SRC GNA11 FYN CBL IL1B GRB2 AKT1 CDC42 GNAQ TNF GNAI3 PRKCA FADD GNAO1 FAS HRAS RAC1 NOTCH2 PIK3CA PTPN11 RHOA CTNNB1 EGFR CD4 PIK3R1	Plasma membrane	0.0185
	CM1	XIAP HGF PTEN TP53	Cytoplasm	0.0275
	CM2	AKT1 AR CASP3 PTEN TERT	Cytoplasm	0.0321
	CM3	AR HSP90AA1 PTEN TERT TP53	Cytoplasm	0.036
	CM4	F2 F5 PROC PROS1	Extracellular space	0.0003
	CM5	CSF3 IL8 MMP9 SAA1 TNF	Extracellular space	0.0071
	CM6	IL8 IL17A MMP9 CXCL12 STAT3	Extracellular space	0.00115
CFinder	CM7	CSF2 CSF3 IL8 MMP9 STAT3 TNF	Extracellular space	0.0125
	CM8	FGF2 FGFR4 MMP9 SPP1	Extracellular space	0.0066
	CM9	IL8 MMP9 TGFB1 VEGFA	Extracellular space	0.0126
	CM10	AR HSP90AA1 PTEN TERT TP53	Nucleus	0.036
	CM11	AKT1 AR HSP90AA1 PTEN TERT	Nucleus	0.0318
	CM12	EGF EGFR JAK2 SRC STAT1 STAT3	Nucleus	0.0293
	CM13	EGFR HGF IGF1R PRKCA PTEN	Plasma membrane	0.0204
	CM14	FGF2 IL1B MMP9 TNF	Plasma membrane	0.0338
	CM15	NOTCH3 PSEN1 NCSTN APH1A PSENE1 PSEN2	Golgi apparatus	0.0262

