

microRNA and Cardiovascular Disease

CARDIAC DEVELOPMENT

↑	miRNA 1-2	→	Irx4, Hrt2, Hand1 and Gara6
	miRNA 1	→	MyoD
	miRNA 133	→	Mef2
	miRNA 133a	→	SRF a cyclin D2
	miRNA 17~92	→	STAT3

CARDIAC HYPERTROPHY

↑	miRNA 150	→	ACVR2A, c-myb
	miRNA 208	→	THRAP1, Myostatin
	miRNA 23a	→	MuRF1
	miRNA 24	→	NLK
	miRNA 21	→	SPRY2
	miRNA 195	→	MO25
	miRNA 199	→	Dyrk1a, Hif-1a, Sirt1
↓	miRNA 1	→	RASGAP, MEF2A, GATA4
	miRNA 26b	→	GSK3β,
	miRNA 27a	→	Foxo3a
	miRNA 143	→	ACE2
	miRNA 29	→	TGFB3
	miRNA 133	→	Nelf-A/WHSC2, Rho

CARDIAC FIBROSIS

↑	miRNA 21	→	Spry1, PTEN
	miRNA 133	→	CTGF
↓	miRNA 1	→	RASGAP, MEF2A, GATA4

CARDIOMYOCYTE APOPTOSIS

↑	miR-15	→	Bcl-2, ARL2
	miR-214	→	PTEN, CyP-D, Bim
	miR-140	→	MFN1
↓	miR-34	→	PNUTS, SIRT1, BCL-6
	miR-320	→	Hsp 20
	miR-24	→	Bim

STEM/PROGENITOR CELLS DIFFERENTIATION

↑	miRNA 21	→	SPRY2
	miRNA 221	→	Bim
↓	miRNA 34a	→	Sirt1
	miRNA 126	→	Spred1

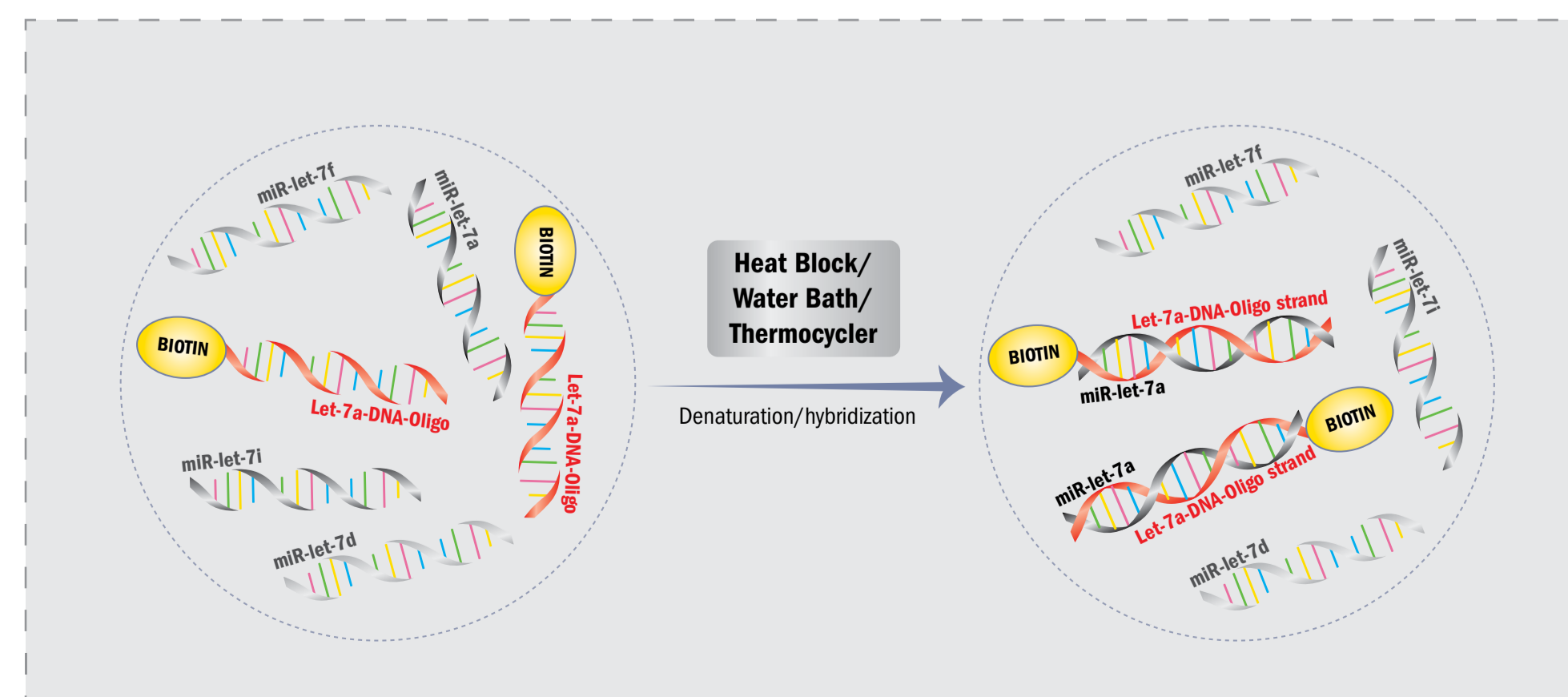
CARDIAC REGENERATION

↑	miRNA 15a	→	Chek1
	miRNA 17-92	→	PTEN
	miRNA 195	→	Chek1
↓	miRNA 133	→	mps1, cdc37, PA2G4
	miRNA 208	→	βMHC
	miRNA 499	→	Sox6 and Rod1
	miRNA 24	→	eNOS

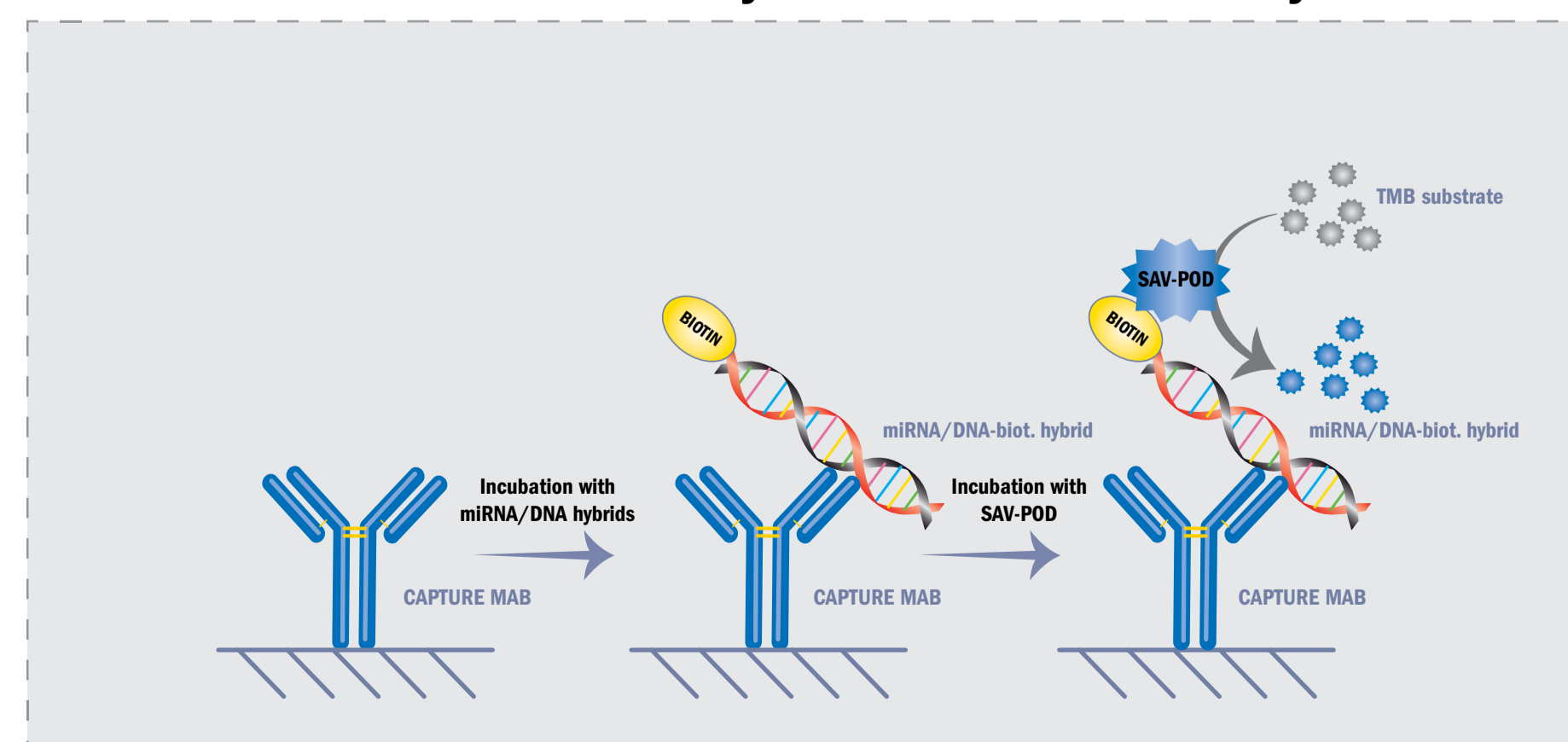
CARDIAC ARRHYTHMIA

↑	miRNA 1	→	KCNJ2
	miRNA 133	→	KCNQ1 and SRF
	miRNA 133a	→	Cx43
	miRNA 212	→	Kir2.1
	miRNA 17~92	→	Pitx2
	miRNA 106b-25	→	Pitx2
↓	miRNA 150	→	AT1R

HYBRIDIZATION



miReia - miRNA enzyme immunoassay



miRacle - miRNA antibody/capture luminometry

