

CardioNext Genes and Associated Diseases | April 2019

CardioNext is a targeted panel for patients with inherited cardiomyopathies, arrhythmias, and other inherited cardiovascular conditions. Given the genetic and clinical overlap between these conditions, one comprehensive inherited cardiovascular test is an effective way of identifying at-risk individuals, or confirming a diagnosis.

Gene Name	Associated Disease	Gene Name	Associated Disease
ABCC9	DCM	LAMP2	Danon Disease (HCM, DCM)
ACTC1	Congenital Heart Defects, DCM, HCM, LVNC	LDB3	DCM, LVNC
ACTN2	DCM, HCM	LMNA	Arrhythmia, Cardiomyopathy, Cardiac Conduction Disease, DCM
AKAP9	LQTS	MYBPC3	DCM, HCM, LVNC
ALMS1	Alström syndrome (DCM)	MYH6	Congenital Heart Defects, DCM, HCM
ALPK3	HCM	MYH7	DCM, HCM, LVNC
ANK2	Arrhythmia	MYL2	HCM
ANKRD1	DCM, HCM	MYL3	HCM
BAG3	DCM	MYOZ2	HCM
CACNA1C	BrS, Timothy syndrome	MYPN	DCM, HCM
CACNA2D1	BrS	NEXN	DCM, HCM
CACNB2	BrS	NKX2-5	Arrhythmia, Cardiomyopathy, Congenital Heart Defects
CALM1	CPVT, LQTS	PKP2	ARVC
CALM2	LQTS	PLN	ARVC, DCM, HCM,
CALM3	LQTS	PRKAG2	HCM, Wolff-Parkinson-White syndrome (Arrhythmia)
CASQ2	CPVT	PTPN11	Noonan syndrome (HCM)
CAV3	HCM, LQTS	RAF1	Noonan syndrome (DCM, HCM)
CRYAB	Cardiomyopathy	RBM20	DCM
CSRP3	DCM, HCM	RIT1	Noonan syndrome (HCM)
DES	Cardiomyopathy	RYR2	ARVC, CPVT
DMD	Dystrophinopathy (DCM)	SCN1B	BrS
DOLK	DCM	SCN2B	BrS
DSC2	ARVC	SCN3B	BrS
DSG2	ARVC, DCM	SCN4B	LQTS
DSP	ARVC, DCM	SCN5A	ARVC, BrS, DCM, LQTS
EMD	Emery-Dreifuss Muscular Dystrophy (Cardiomyopathy)	SCN10A	Arrhythmia, BrS
EYA4	DCM	SNTA1	LQTS
FHL1	Emery-Dreifuss Muscular Dystrophy (HCM)	SOS1	Noonan syndrome (HCM)
FKRP	Limb-Girdle Muscular Dystrophy (DCM)	TAZ	Barth syndrome (Cardiomyopathy)
FKTN	DCM	TBX20	Congenital Heart Defects, DCM
FLNC	DCM, HCM	TBX5	Holt-Oram syndrome (Congenital Heart Defects, Cardiac Conduction Disease)
GATAD1	DCM	TCAP	DCM, HCM
GLA	Fabry Disease (HCM)	TECL	Arrhythmia, CPVT
GPD1L	BrS	TGFB3	ARVC, Loews-Dietz syndrome
HCN4	Cardiomyopathy, BrS	TMEM43	ARVC
JPH2	HCM	TNNC1	DCM, HCM
JUP	ARVC	TNNI3	DCM, HCM
KCND3	BrS	TNNT2	DCM, HCM, LVNC
KCNE1	LQTS	TPM1	DCM, HCM, LVNC
KCNE2	LQTS	TRDN	CPVT, LQTS
KCNE3	BrS	TRPM4	Arrhythmia, BrS
KCNH2	LQTS, Short QT syndrome	TTN	DCM
KCNJ2	Andersen-Tawil syndrome, Short QT syndrome	TTR	Amyloidosis (Cardiomyopathy, Arrhythmia)
KCNJ5	Andersen-Tawil syndrome, LQTS	TXNRD2	DCM
KCNJ8	BrS	VCL	DCM, HCM
KCNQ1	LQTS, Short QT syndrome		
LAMA4	DCM		

References available upon request.

HCM = Hypertrophic Cardiomyopathy, DCM = Dilated Cardiomyopathy, ARVC = Arrhythmogenic Right Ventricular Cardiomyopathy, LVNC = Left Ventricular Non-Compaction, CPVT = Catecholaminergic Polymorphic Ventricular Tachycardia, LQTS = Long QT Syndrome, BrS = Brugada Syndrome