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CustomNext-*Cardio* GENE DECISION GUIDE

With CustomNext-*Cardio*, you can choose from up to 167 genes associated with heritable cardiovascular and lipid disorders to create a customized panel that best fits your patient's needs. Below is a list of genes that you may want to consider for each different condition. Since some genes are associated with more than one condition, genes may be listed under more than one category.

THORACIC AORTIC ANEURYSMS/DISSECTIONS, MARFAN SYNDROME, AND RELATED DISORDERS

ACTA2, BGN, CBS, CHST14, COL1A1,COL1A2, COL3A1, COL5A1, COL5A2, EFEMP2, FBN1, FBN2, FKBP14, FLNA, FOXE3, LOX, MAT2A, MED12, MFAP5, MYH11, MYLK, NOTCH1, PLOD1, PRDM5, PRKG1, SKI, SLC2A10, SMAD3, SMAD4, TGFB2, TGFB3, TGFBR1, TGFBR2, TNXB, ZNF469

LONG QT, BRUGADA, AND SHORT QT SYNDROMES

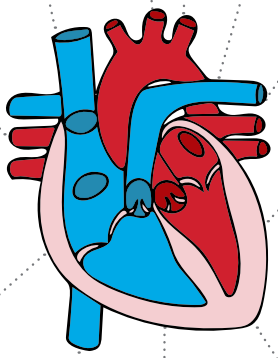
AKAP9, ANK2, CACNA1C, CALM1, CALM2, CALM3, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNJ5, KCNQ1, SCN4B, SCN5A, SNTA1, TRDN

NOONAN SYNDROME AND OTHER RASOPATHIES

BRAF, CBL, HRAS, KRAS, LZTR1, MAP2K1, MAP2K2, NF1, NRAS, PPP1CB, PTPN11, RAF1, RASA1, RIT1, SHOC2, SOS1, SOS2, SPRED1

CATECHOLAMINERGIC POLYMORPHIC VENTRICULAR TACHYCARDIA

CALM1, CASQ2, RYR2, TRDN



HEREDITARY HEMORRHAGIC TELANGIECTASIA

ACVRL1, ENG, EPHB4, GDF2, RASA1, SMAD4

HYPERTROPHIC CARDIOMYOPATHY

ACTC1, ACTN2, ALPK3, ANKRD1, CSRP3, FHL1, FLNC, GLA, JPH2, LAMP2, MYBPC3, MYH6, MYH7, MYL2, MYL3, MYPN, NEXN, PLN, PRKAG2, PTPN11, RAF1, RIT1, SOS1, TCAP, TNNC1, TNNI3, TNNT2, TPM1, TTR, VCL

LIPID DISORDERS

- Familial hypercholesterolemia: *APOB, LDLR, LDLRAP1, PCSK9*
- Sitosterolemia: *ABCG5, ABCG8*
- Familial chylomicronemia syndrome: *APOA5, APOC2, GPIHBP1, LMF1, LPL*

DILATED CARDIOMYOPATHY

ABCC9, ACTC1, ACTN2, ALMS1, ANKRD1, BAG3, CSRP3, DES, DMD, DOLK, DSP, FKRP, FLNC, LAMA4, LAMP2, LDB3, LMNA, MYBPC3, MYH6, MYH7, MYPN, NEXN, NKX2-5, PLN, RAF1, RBM20, SCN5A, TAZ, TBX20, TCAP, TNNC1, TNNI3, TNNT2, TPM1, TTN, TTR, VCL

OTHER LIPID DISORDERS

- Familial HDL deficiency: *ABCA1, APOA1*
- Lysosomal acid lipase deficiency: *LIPA*
- LCAT deficiency/Fish-eye disease: *LCAT*
- Hyperlipoproteinemia type III: *APOE*
- Cerebrotendinous xanthomatosis (CTX): *CYP27A1*
- Apolipoprotein C-III deficiency: *APOC3*

ARRHYTHMOGENIC RIGHT VENTRICULAR CARDIOMYOPATHY

DES, DSC2, DSG2, DSP, JUP, LMNA, PKP2, PLN, RYR2, SCN5A, TMEM43

OTHER CONDITIONS

- Glycogen storage disease type II/Pompe: *GAA*
- Congenital heart defects: *ACTC1, GATA4, JAG1, MED12, MYH6, NKX2-5, NOTCH1, TBX1, TBX5, TBX20.*

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