Ambry Genetics®
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CustomNext-*Cardio* (9520) or Reaccessioning (9520-A) SUPPLEMENTAL ORDERING FORM

PATIENT INFORMATION

Last Name	First Name	Middle Initial	DOB (MM/DD/YY)

CUSTOMIZE YOUR PANEL

To create your own panel, select desired genes below **OR** select a multi-gene test option as a base and add or remove genes below:

- ☐ ARVCNext (8904): 11 gene arrhythmogenic right ventricular cardiomyopathy test
- ☐ CardioNext (8911): 92 gene cardiomyopathy and arrhythmia test
- ☐ CMNext (8887): 56 gene cardiomyopathy test
- ☐ CPVTNext (8902): 4 gene catecholaminergic polymorphic ventricular tachycardia test
- ☐ DCMNext (8884): 37 gene dilated cardiomyopathy test
- ☐ FCSNext (8920): 5 genes for familial chylomicronemia syndrome
- ☐ FHNext (8680): 4 gene familial hypercholesterolemia test
- ☐ HCMNext (8936): 30 gene hypertrophic cardiomyopathy test
- ☐ HHTNext (8672): 6 genes for hereditary hemorrhagic telangiectasia
- ☐ LongQTNext (8890): 17 gene long QT, Brugada, and short QT test
- ☐ NoonanNext (8402): 18 gene RASopathy test
- ☐ RhythmNext (8900): 42 gene inherited arrhythmia test
- ☐ Sitosterolemia (8930): 2 genes for sitosterolemia
- ☐ TAADNext (8789): 35 genes for thoracic aortic aneurysms/dissections

A list of genes for each multi-gene test is available on ambrygen.com.

CUSTOM GEN SELECTION

☐ **ADD** — *AKAP9, ANK2, CACNA1C, CALM1, CALM2, CALM3, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNJ5, KCNQ1, SCN4B, SCN5A, SNTA1, TRDN*
(These genes are included in LongQTNext. All 17 genes must be ordered as a bundle.)

ADD	GENE	REMOVE
Arrhythmias & Cardiomyopathies		
☐	*ABCC9*	☐
☐	*ACTC1*	☐
☐	*ACTN2*	☐
☐	*ALMS1*	☐
☐	*ALPK3*	☐
☐	*ANKRD1*	☐
☐	*BAG3*	☐
☐	*CACNA2D1*	☐
☐	*CACNB2*	☐
☐	*CASQ2*	☐
☐	*CRYAB*	☐
☐	*CSRP3*	☐
☐	*DES*	☐
☐	*DMD*	☐
☐	*DOLK*	☐
☐	*DSC2*	☐
☐	*DSG2*	☐
☐	*DSP*	☐
☐	*EMD*	☐
☐	*EYA4*	☐
☐	*FHL1*	☐
☐	*FKRP*	☐
☐	*FKTN*	☐
☐	*FLNC*	☐
☐	*GATAD1*	☐
☐	*GLA*	☐
☐	*GPD1L*	☐
☐	*HCN4*	☐
☐	*JPH2*	☐
☐	*JUP*	☐
☐	*KCND3*	☐
☐	*KCNE3*	☐
☐	*KCNJ8*	☐
☐	*LAMA4*	☐
☐	*LAMP2*	☐
☐	*LDB3*	☐
☐	*LMNA*	☐
☐	*MYBPC3*	☐
☐	*MYH6*	☐
☐	*MYH7*	☐
☐	*MYL2*	☐
☐	*MYL3*	☐
☐	*MYOZ2*	☐
☐	*MYPN*	☐
☐	*NEXN*	☐
☐	*NKX2-5*	☐
☐	*PKP2*	☐
☐	*PLN*	☐
☐	*PRKAG2*	☐
☐	*RBM20*	☐
☐	*RYR2*	☐
☐	*SCN10A*	☐
☐	*SCN1B*	☐
☐	*SCN2B*	☐
☐	*SCN3B*	☐
☐	*TAZ*	☐
☐	*TBX20*	☐
☐	*TBX5*	☐
☐	*TCAP*	☐
☐	*TECRL*	☐
☐	*TMEM43*	☐
☐	*TNNC1*	☐
☐	*TNNI3*	☐
☐	*TNNT2*	☐
☐	*TPM1*	☐
☐	*TRPM4*	☐
☐	*TTN*	☐
☐	*TTR*	☐
☐	*TXNRD2*	☐
☐	*VCL*	☐
RASopathies		
☐	*BRAF*	☐
☐	*CBL*	☐
☐	*HRAS*	☐
☐	*KRAS*	☐
☐	*LZTR1*	☐
☐	*MAP2K1*	☐
☐	*MAP2K2*	☐
☐	*NF1*	☐
☐	*NRAS*	☐
☐	*PPP1CB*	☐
☐	*PTPN11*[2]	☐
☐	*RAF1*[2]	☐
☐	*RASA1*[1]	☐
☐	*RIT1*[2]	☐
☐	*SHOC2*	☐
☐	*SOS1*[2]	☐
☐	*SOS2*[2]	☐
☐	*SPRED1*	☐
Thoracic Aortic Aneurysms/Dissections, Marfan, 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*[1]	☐
☐	*TGFB2*	☐
☐	*TGFB3*	☐
☐	*TGFBR1*	☐
☐	*TGFBR2*	☐
☐	*TNXB*	☐
☐	*ZNF469*	☐
Lipid Disorders		
☐	*ABCA1*	
☐	*ABCG5*	☐
☐	*ABCG8*	☐
☐	*APOA1*	
☐	*APOA5*	☐
☐	*APOB*	☐
☐	*APOC2*	☐
☐	*APOC3*	
☐	*APOE* ☐ *Report APOE homozygous e2 allele*	
☐	*CYP27A1*	
☐	*GPIHBP1*	☐
☐	*LCAT*	
☐	*LDLR*	☐
☐	*LDLRAP1*	☐
☐	*LIPA*	
☐	*LMF1*	☐
☐	*LPL*	☐
☐	*PCSK9*	☐
☐	*SLCO1B1 c.521T>C*[3]	
Hereditary Hemorrhagic Telangiectasia		
☐	*ACVRL1*	☐
☐	*ENG*	☐
☐	*EPHB4*	☐
☐	*GDF2*	☐
Other		
☐	*GAA*	
☐	*GATA4*	
☐	*JAG1*	
☐	*TBX1*	

[1]*Also associated with HHT* [2]*Also associated with cardiomyopathy (RAF1 is asssociated with both DCM and HCM)* [3]*Available as an add-on when other lipid genes are ordered*

Total Gene Count (REQUIRED: include total number of genes on your CustomNext-*Cardio* panel): _____

REFLEX TESTING

1. ☐ Test Code:_____ Test Name:_____ reflex to
2. ☐ Test Code:_____ Test Name:_____

RE-REQUISITIONING ORDERS (Available within 60 days of original report date for any of the multi-gene panels listed above)

Accession #: _____ Previously reported hereditary cardiovascular panel: _____

☐ (9520-A) Add the gene(s) selected above to the previously-reported panel for this patient

Medical Professional Signature: _____ Date: _____

Medical Professional Name (Print): _____

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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

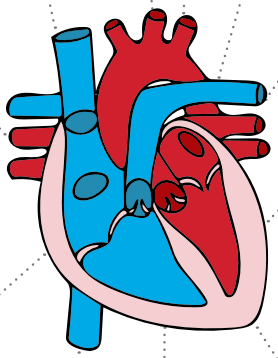
AKAP9, ANK2, CACNA1C, CALM1, CALM2, CALM3, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNJ5, KCNQ1, SCN4B, SCN5A, SNTA1, TRDN

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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