GeneDx an OPKO Health Company

Cardiology Test Requisition Form (Customizable)

Patient Information

First name Last name
Gender ❒ Male ❒ Female Date of birth (mm/dd/yyyy) _____
Date of death (if applicable) (mm/dd/yyyy) _____
Ancestry ❒ Caucasian ❒ Eastern European ❒ Central/South American
❒ Western European ❒ Native American ❒ Middle Eastern ❒ Hispanic
❒ African American ❒ Asian ❒ Pacific Islander ❒ Caribbean
❒ Ashkenazi Jewish ❒ Northern European ❒ Other: _____

Mailing address
City State Zip code
Home phone Work phone
Email Patient's primary language if not English

Ordering Account Information

Acct # Account Name
Reporting Preference* ❒ Care Evolve ❒ Fax ❒ Email
If unmarked, we will use the account's default preferences or fax to new clients.

Physician NPI #
Genetic Counselor
Street address 1
Street address 2
City State Zip code
Phone Fax (important)
Email Beeper

Send Additional Report Copies To:

Physician or GC/Acct # Fax#/Email/CE #
Physician or GC/Acct # Fax#/Email/CE #

Sample Information

Medical record # Specimen ID Date sample obtained (mm/dd/yy)
❒ Blood in EDTA (5-6 mL in lavender top tube)
❒ DNA (>20 ug): Tissue source _____ concentration ___ (ug/ml) Vol ___(ul)
❒ Oral Rinse (At least 30 mL of Scope oral rinse in a 50 mL centrifuge tube)
❒ Dried Blood Spots (2 cards) - Not accepted for any testing with a del/dup component
❒ Buccal Swab
❒ Other _____(call lab)
Patient has had a blood transfusion ❒ Yes ❒ No Date of last transfusion __/__/__
(2-4 weeks of wait time is required for some testing) Specimens are not accepted for patients who have had allogeneic bone marrow transplants.
Clinical Diagnosis: _____ **ICD-10 Codes:** _____
Age at Initial Presentation: _____

Statement of Medical Necessity

This test is medically necessary for the diagnosis or detection of a disease, illness, impairment, symptom, syndrome or disorder. The results will determine my patient's medical management and treatment decisions. The person listed as the Ordering Physician is authorized by law to order the tests(s) requested herein. I confirm that I have provided genetic testing information to the patient and the patient has consented to genetic testing.

Signature of Physician or Other Authorized NPI Provider (required) Date

Patient Consent (sign here)

I have read the attached Informed Consent document and I give permission to GeneDx to perform genetic testing as described. I also give permission for my specimen and clinical information to be used in de-identified studies at GeneDx to improve genetic testing and for publication, if appropriate. My name or other personal identifying information will not be used in or linked to the results of any studies and publications. I also give GeneDx permission to inform me or my health care provider in the future about research opportunities, including treatments for the condition in my family. **More information is available on our website: www.genedx.com**

❒ Check this box if you are a New York state resident, and give permission for GeneDx to retain any remaining sample longer than 60 days after the completion of testing.

Patient/Guardian Signature Date

PATIENT STATUS – ONE MUST BE CHECKED: ❒ Hospital Inpatient ❒ Hospital Outpatient ❒ Not a Hospital Patient Hospital Patient Date of Discharge:_____

Payment Options

❒ Insurance Bill

Referral/Prior Authorization # _____
Please attach copy of Referral/authorization
GeneDx Benefit Investigation #_____

Insurance Carrier Policy Name ❒ Hold sample for Benefit Investigation (only if OOP cost is >$100)

Insurance ID # Group # Name of Insured Date of Birth Insurance Address City State Zip

Secondary Insurance Carrier Name Insurance ID# Group # Name of Insured Date of Birth
Relationship to Insured ❒ Child ❒ Spouse ❒ Self ❒ Other _____
Relationship to Insured ❒ Child ❒ Spouse ❒ Self ❒ Other _____

Please include a copy of the front and back of the patient's insurance card (include secondary when applicable)

If you would like to expedite an assessment of your possible eligibility for GeneDx's financial assistance program (FAP), please provide the number of your household members _____ and the annual income of your household $_____. GeneDx may require additional information from you to complete an application for GeneDx's financial assistance program.

I represent that I am covered by insurance and authorize GeneDx, Inc. to give my designated insurance carrier, health plan, or third party administrator (collectively "Plan") the information on this form and other information provided by my health care provider necessary for reimbursement. I authorize Plan benefits to be payable to GeneDx. I understand that GeneDx will attempt to contact me if my out-of-pocket responsibility will be greater than $100 per test (for any reason, including co-insurance and deductible, or non-covered services). If GeneDx is unsuccessful in its attempts to contact me, I understand that it will be my responsibility to contact GeneDx to determine my out-of-pocket cost and to pay my out-of-pocket responsibility. I will cooperate fully with GeneDx by providing all necessary documents needed for Plan billing and appeals. I understand that I am responsible for sending GeneDx any and all of the money that I receive directly from my Plan in payment for this test. Reasonable collection and/or attorney's fees, including filing and service fees, shall be assessed if the account is sent to collection but said fees shall not exceed those permitted by state law. I permit a copy of this authorization to be used in place of the original.

Patient Signature (required)_____ Date _____

❒ Institutional Bill

GeneDx Account #
Hospital/Lab Name
Contact Name
Address
City State Zip Code
Phone Fax

❒ Patient Bill

Amount _____
I understand that my credit card will be charged the full amount for the testing.
Please bill my credit card (all major cards accepted)
❒ MasterCard ❒ Visa ❒ Discover ❒ American Express

Name as it appears on card
Account Number Expiration date CVC
Signature Date

For GeneDx Use Only

GeneDx an OPKO Health Company

Cardiology Clinical Information

Account # Account Name

First Name Last Name Date of Birth (mm/dd/yy)

Clinical Information DETAILED MEDICAL RECORDS MUST BE ATTACHED

Is this person affected: ❒ Yes ❒ No Clinical diagnosis:_____ **ICD-10 codes:**_____ Age of Initial Presentation:_____

Reason for Testing: ❒ Diagnosis ❒ Presymptomatic diagnosis ❒ Carrier/Familial Variant Testing

Please check all that apply. This is not a substitute for submitting clinical records.

Diagnosis

❒ ARVC
❒ Brugada syndrome
❒ Cardiac amyloidosis
❒ CPVT
❒ DCM
❒ Ehlers-Danlos syndrome
❒ HCM
❒ HHT
❒ Loeys-Dietz syndrome
❒ LQT syndrome
❒ LVNC
❒ Marfan syndrome
❒ PAH
❒ RCM
❒ SQT syndrome
❒ Sudden Cardiac Arrest
❒ Sudden Cardiac Death

Echocardiogram

❒ Aortic root dimensions: _____
❒ Z-score: _____
❒ EF%: _____
❒ LVEDD: _____
❒ Z-score: _____
❒ Max LV wall thickness: _____
❒ Normal
❒ Report Included

ECG

❒ Max QTc:_____
❒ Normal
❒ Report Included

Arrhythmia/Cardiomyopathy

❒ Atrial fibrillation
❒ Bradycardia
❒ Conduction defect
❒ Heart transplant
❒ RV fatty infiltrate
❒ Syncope
❒ Torsades de pointe
❒ Ventricular tachycardia

HHT

❒ Arterial Venous Malformation
❒ Epistaxis
❒ Telangiectasia

Familial Hypercholesterolemia

❒ Atherosclerosis
❒ Corneal Arcus
❒ LDL-C levels _____
❒ Xanthoma(s)
❒ Other: _____

Marfan/TAAD/HDCT

❒ Abnormal scarring
❒ Aortic/Arterial aneurysm
❒ Aortic/Arterial dissection
❒ Arachnodactyly
❒ Arterial tortuosity/ectasia
❒ Beighton score_____
❒ Bifid uvula
❒ Cleft lip/palate
❒ Craniosynostosis
❒ Cutis laxa
❒ Dental crowding
❒ Dilated aortic root
❒ Dural ectasia
❒ Easy bruising
❒ Ectopia lentis
❒ Hollow organ rupture:
❒ Uterine ❒ Bowel
❒ Other: _____
❒ Hypermobility
❒ Joint contractures
❒ Joint dislocations
❒ Joint pain
❒ Meets Ghent criteria
❒ Mitral valve prolapse
❒ Myopia
❒ Osteoarthritis
❒ Pectus carinatum
❒ Pectus excavatum
❒ Pneumothorax
❒ Scoliosis/Kyphosis (circle what applies)
❒ Skin findings, Specify: _____
❒ Stroke
❒ Velvety skin

Congenital Heart Malformations

❒ ASD/VSD (circle what applies)
❒ Bicuspid aortic valve
❒ Coarctation of aorta
❒ Hypoplastic left heart
❒ Tetralogy of Fallot
❒ Other: _____

PAH

❒ Mean pulmonary artery pressure:
_____

Other

❒ Angiokeratomas
❒ Anhydrosis
❒ CPK abnormalities
❒ Embolism/Thrombosis
Type: _____
❒ Facial dysmorphism:
Describe: _____
❒ Hearing loss:
❒ Sensorineural ❒ Conductive
❒ Mixed
❒ Muscle weakness
❒ Periventricular nodular heterotopia
❒ Renal insufficiency
❒ Other:_____

Attach pedigree and/or include additional clinical information:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Family History of Cardiac Disorder

❒ No Known Family History ❒ Pedigree Attached ❒ Adopted

Relationship	Maternal	Paternal	Cardiac Disorder	Age at Dx
	❒	❒		
	❒	❒		
	❒	❒		
	❒	❒		

GeneDx an OPKO Health Company

Cardiology Genetic Testing

Account # Account Name

First Name Last Name Date of Birth (mm/dd/yy)

The following diagnosis codes are listed as a convenience only. Ordering physicians should use the ICD-10 code that best describes the reason for performing the test, whether or not that code is listed below.

Frequently Used ICD-10 Codes

Please select or write the appropriate ICD-10 code(s):

Arrhythmia

- ❒ I45.81: Long QT syndrome
- ❒ I47.2: Ventricular tachycardia
- ❒ I49.01: Ventricular fibrillation
- ❒ R94.31: Abnormal electrocardiogram [ECG] [EKG]

Cardiomyopathy

- ❒ I42.0: Dilated cardiomyopathy
- ❒ I42.1: Obstructive hypertrophic cardiomyopathy
- ❒ I42.2: Other hypertrophic cardiomyopathy
- ❒ I43: Cardiomyopathy in diseases classified elsewhere

FH

- ❒ E78.01: Familial hypercholesterolemia
- ❒ E78.4: Other hyperlipidemia
- ❒ Z83.42: Family history of familial hypercholesterolemia

Marfan/TAAD and Related Disorders

- ❒ I71.3: Abdominal aortic aneurysm, ruptured
- ❒ I77.810: Thoracic aortic ectasia
- ❒ M35.7: Hypermobility syndrome
- ❒ Q67.6: Pectus excavatum
- ❒ Q79.6: Ehlers-Danlos syndrome
- ❒ Q87.41: Marfan's syndrome with cardiovascular manifestations
- ❒ Q87.410: Marfan's syndrome with aortic dilation
- ❒ Q87.42: Marfan's syndrome with ocular manifestations

Other

- ❒ I51.7: Cardiomegaly
- ❒ R55: Syncope and collapse
- ❒ Z82.49: Family history of ischemic heart disease and other diseases of the circulatory system
- ❒ Other ICD-10 Code (please specify):_____

Arrhythmia Testing Options

❒ **695 - Arrhythmia Sequencing and Del/Dup Panel (46 genes):** *ABCC9, AKAP9, ANK2, CACNA1C, CACNA2D1, CACNB2, CALM1*, CALM2, CALM3, CASQ2, CAV3, DES, DSC2, DSG2, DSP, GPD1L, HCN4, JUP, KCND3, KCNE1, KCNE2, KCNE3, KCNE1L^, KCNH2, KCNJ2, KCNJ5, KCNJ8, KCNQ1, LMNA, NKX2-5, PKP2, PLN, RANGRF, RYR2, SCN10A, SCN1B^, SCN2B, SCN3B, SCN4B, SCN5A, SNTA1, TGFB3, TMEM43, TRDN, TRPM4, TTN*

❒ **695RE - Rest of Combined Cardiac after Arrhythmia Panel**

❒ **695C - Custom Arrhythmia Sequencing and Del/Dup Panel**

Includes all 46 genes on the Arrhythmia Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **483 - ARVC Sequencing and Del/Dup Panel (13 genes):** *DES, DSC2, DSG2, DSP, JUP, LMNA, PKP2, PLN, RYR2, SCN5A, TGFB3, TMEM43, TTN*

❒ **483RE - Rest of Combined Cardiac after ARVC Panel**

❒ **483C - Custom ARVC Sequencing and Del/Dup Panel**

Includes all 13 genes on the ARVC Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **481 - BrS Sequencing and Del/Dup Panel (14 genes):** *ABCC9, CACNA1C, CACNB2, GPD1L, KCND3, KCNE3, KCNJ8, PKP2, SCN10A, SCN1B^, SCN2B, SCN3B, SCN5A, TRPM4*

❒ **481RE - Rest of Arrhythmia after Brugada Syndrome Panel**

❒ **481C - Custom BrS Sequencing and Del/Dup Panel**

Includes all 14 genes on the BrS Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **482 - CPVT Sequencing and Del/Dup Panel (7 genes):** *CALM1*, CALM2, CALM3, CASQ2, KCNJ2, RYR2, TRDN*

❒ **482RE - Rest of Arrhythmia after CPVT Panel**

❒ **482C - Custom CPVT Sequencing and Del/Dup Panel**

Includes all 7 genes on the CPVT Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **727 - LQTS Sequencing and Del/Dup Panel (17 genes):** *AKAP9, ANK2, CACNA1C, CALM1*, CALM2, CALM3, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNJ5, KCNQ1, SCN4B, SCN5A, SNTA1, TRDN*

❒ **727RE - Rest of Arrhythmia after LQTS Panel**

❒ **727C - Custom LQTS Sequencing and Del/Dup Panel**

Includes all 17 genes on the LQTS Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **J552 - SCA Arrhythmia Sequencing and Del/Dup Panel (13 genes):** *ANK2, CALM1*, CALM2, CALM3, CASQ2, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNQ1, RYR2, SCN5A*

❒ **J552RE - Rest of Arrhythmia after SCA Arrhythmia Panel**

❒ **J552C - Custom SCA Arrhythmia Sequencing and Del/Dup Panel**

Includes all 13 genes on the SCA Arrhythmia Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **J551 - SQTS Sequencing and Del/Dup Panel (5 genes):** *CACNA1C, CACNB2, KCNH2, KCNJ2, KCNQ1*

❒ **J551C - Custom SQTS Sequencing and Del/Dup Panel**

Includes all 5 genes on the SQTS Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

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Cardiology Genetic Testing

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Cardiomyopathy Testing Options

❒ **694 - Cardiomyopathy Sequencing and Del/Dup Panel (92 genes):** *ABCC9, ACTC1, ACTN2, ALMS1, ALPK3, ANKRD1, BAG3, BRAF, CAV3, CHRM2, CRYAB, CSRP3, DES, DMD, DOLK, DSC2, DSG2, DSP, DTNA, EMD^, FHL1, FKRP*, FKTN, FLNC, GATAD1, GLA, HCN4, HRAS*, ILK, JPH2, JUP, KRAS, LAMA4, LAMP2, LDB3, LMNA, MAP2K1, MAP2K2, MIB1, MTND1*, MTND5*, MTND6*, MTTD*, MTTG*, MTTH*, MTTI*, MTTK*, MTTL1*, MTTL2*, MTTM*, MTTQ*, MTTS1*, MTTS2*, MURC, MYBPC3, MYH6, MYH7, MYL2, MYL3, MYLK2, MYOZ2, MYPN, NEBL, NEXN, NKX2-5, NRAS, PDLIM3, PKP2, PLN, PRDM16, PRKAG2, PTPN11, RAF1, RBM20, RIT1, RYR2, SCN5A, SGCD, SOS1, TAZ^, TCAP, TGFB3, TMEM43, TMPO, TNNC1, TNNI3, TNNT2, TPM1, TTN, TTR, TXNRD2, VCL*

❒ **694RE - Rest of Combined Cardiac after Cardiomyopathy Panel**

❒ **694C - Custom Cardiomyopathy Sequencing and Del/Dup Panel**

Includes all 91 genes on the Cardiomyopathy Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **483 - ARVC Sequencing and Del/Dup Panel (13 genes):** *DES, DSC2, DSG2, DSP, JUP, LMNA, PKP2, PLN, RYR2, SCN5A, TGFB3, TMEM43, TTN*

❒ **483RE - Rest of Combined Cardiac after ARVC Panel**

❒ **483C - Custom ARVC Sequencing and Del/Dup Panel**

Includes all 13 genes on the ARVC Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **J554 - DCM/LVNC Sequencing and Del/Dup Panel (63 genes):** *ABCC9, ACTC1, ACTN2, ALMS1, ANKRD1, BAG3, CHRM2, CRYAB, CSRP3, DES, DMD, DOLK, DSC2, DSG2, DSP, DTNA, EMD^, FKTN, FLNC, GATAD1, ILK, LAMA4, LAMP2, LDB3, LMNA, MIB1, MTND1*, MTND5*, MTND6*, MTTD*, MTTG*, MTTH*, MTTI*, MTTK*, MTTL1*, MTTL2*, MTTM*, MTTQ*, MTTS1*, MTTS2*, MYH6, MYH7, MYBPC3, MYPN, NEBL, NEXN, PLN, PRDM16, RAF1, RBM20, SCN5A, SGCD, TAZ^, TCAP, TMPO, TNNC1, TNNI3, TNNT2, TPM1, TTN, TTR, TXNRD2, VCL*

❒ **J554RE - Rest of Cardiomyopathy after DCM Panel**

❒ **J554C - Custom DCM/LVNC Sequencing and Del/Dup Panel**

Includes all 61 genes on the DCM/LVNC Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **J553 - HCM Sequencing and Del/Dup Panel (36 genes):** *ACTC1, ACTN2, CAV3, CSRP3, FHL1, FLNC, GLA, JPH2, LAMP2, MTND1*, MTND5*, MTND6*, MTTD*, MTTG*, MTTH*, MTTI*, MTTK*, MTTL1*, MTTL2*, MTTM*, MTTQ*, MTTS1*, MTTS2*, MYBPC3, MYH7, MYL2, MYL3, PLN, PRKAG2, TCAP, TNNC1, TNNI3, TNNT2, TPM1, TTR, VCL*

❒ **J553RE - Rest of Cardiomyopathy after HCM Panel**

❒ **J553C - Custom HCM Sequencing and Del/Dup Panel**

Includes all 25 genes on the HCM Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

Combined Cardiac Panel

❒ **935 - Combined Cardiac Panel (121 genes):** *ABCC9, ACTC1, ACTN2, AKAP9, ALMS1, ALPK3, ANK2, ANKRD1, BAG3, BRAF, CACNA1C, CACNA2D1, CACNB2, CALM1*, CALM2, CALM3, CASQ2, CAV3, CHRM2, CRYAB, CSRP3, DES, DMD, DOLK, DSC2, DSG2, DSP, DTNA, EMD^, FHL1, FKRP*, FKTN, FLNC, GATAD1, GLA, GPD1L, HCN4, HRAS*, ILK, JPH2, JUP, KCND3, KCNE1, KCNE2, KCNE3, KCNE1L^, KCNH2, KCNJ2, KCNJ5, KCNJ8, KCNQ1, KRAS, LAMA4, LAMP2, LDB3, LMNA, MAP2K1, MAP2K2, MIB1, MTND1*, MTND5*, MTND6*, MTTD*, MTTG*, MTTH*, MTTI*, MTTK*, MTTL1*, MTTL2*, MTTM*, MTTQ*, MTTS1*, MTTS2*, MURC, MYBPC3, MYH6, MYH7, MYL2, MYL3, MYLK2, MYOZ2, MYPN, NEBL, NEXN, NKX2-5, NRAS, PDLIM3, PKP2, PLN, PRDM16, PRKAG2, PTPN11, RAF1, RANGRF, RBM20, RIT1, RYR2, SCN10A, SCN1B^, SCN2B, SCN3B, SCN4B, SCN5A, SGCD, SNTA1, SOS1, TAZ^, TCAP, TGFB3, TMEM43, TMPO, TNNC1, TNNI3, TNNT2, TPM1, TRDN, TRPM4, TTN, TTR, TXNRD2, VCL*

❒ **935C - Custom Combined Cardiac Panel**

Includes all 120 genes on the Combined Cardiac Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

Familial Hypercholesterolemia (FH) Testing

❒ **J556 - FH Sequencing and Del/Dup Panel (4 genes):** *APOB, LDLR, LDLRAP1, PCSK9*

❒ **J556C - Custom FH Sequencing and Del/Dup Panel**

Includes all 4 genes on the FH Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

Marfan/TAAD and Other Connective Tissue Testing

❒ **883 - Marfan/TAAD Sequencing and Del/Dup Panel (23 genes):** *ACTA2, CBS, COL3A1, COL5A1, COL5A2, FBN1, FBN2, FLNA, MAT2A, MED12, MFAP5, MYH11, MYLK, NOTCH1, PRKG1, SKI, SLC2A10, SMAD3, SMAD4, TGFB2, TGFB3, TGFBR1, TGFBR2*

❒ **883RE - Rest of Heritable Disorders of Connective Tissue after Marfan/TAAD Panel**

❒ **883C - Custom Marfan/TAAD Sequencing and Del/Dup Panel**

❒ **918 - *FBN1* Sequencing and Del/Dup**

❒ **919 - Rest of Marfan/TAAD Sequencing and Del/Dup Panel if test #918 is negative (22 genes)**

Includes all 23 genes on the Marfan/TAAD Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

❒ **J555 - Heritable Disorders of Connective Tissue (HDCT) Sequencing and Del/Dup Panel (49 genes):** *ACTA2, ADAMTS2, ALDH18A1, ATP6V0A2, ATP7A, B3GALT6*, B4GALT7, CBS, CHST14, COL11A1,COL11A2, COL1A1, COL1A2, COL2A1, COL3A1, COL5A1, COL5A2, COL9A1, COL9A2, DSE, EFEMP2, ELN, FBLN5, FBN1, FBN2, FKBP14, FLNA, LTBP4, MAT2A, MED12, MFAP5, MYH11, MYLK, NOTCH1, PLOD1, PRDM5, PRKG1, PYCR1, RIN2, SKI, SLC2A10, SLC39A13, SMAD3, SMAD4, TGFB2, TGFB3, TGFBR1, TGFBR2, ZNF469*

❒ **J555C - Custom HDCT Sequencing and Del/Dup Panel**

Includes all 49 genes on the HDCT Panel as well as additional selections made from the Custom Cardiology Gene List (page 5)

Additional Tests

❒ **Test Code:** _____ **Institution:** _____

* Del/Dup analysis not offered ^ Gene level resolution; may not detect exon level events

GeneDx an OPKO Health Company

Cardiology Genetic Testing

Account # Account Name

First Name Last Name Date of Birth (mm/dd/yy)

Custom Cardiology Panel

❒ **J779 - Custom Cardiology Panel –** Create your own panel by choosing from the Custom Cardiology Gene List below

Custom Cardiology Gene Test List

Primary Disease Genes on the Cardiogenetics Menu

❒ *ABCC9*	❒ *CALM1**	❒ *DOLK*	❒ *HCN4*	❒ *MAP2K1*	❒ *MYH7*	❒ *PYCR1*	❒ *TAZ^*
❒ *ACTC1*	❒ *CALM2*	❒ *DSC2*	❒ *HRAS**	❒ *MAP2K2*	❒ *MYH11*	❒ *RAF1*	❒ *TCAP*
❒ *ACTA2*	❒ *CALM3*	❒ *DSE*	❒ *ILK*	❒ *MAT2A*	❒ *MYL2*	❒ *RANGRF*	❒ *TGFB2*
❒ *ACTN2*	❒ *CASQ2*	❒ *DSG2*	❒ *JPH2*	❒ *MED12*	❒ *MYL3*	❒ *RASA1*	❒ *TGFB3*
❒ *ACVRL1*	❒ *CAV1*	❒ *DSP*	❒ *JUP*	❒ *MFAP5*	❒ *MYLK*	❒ *RBM20*	❒ *TGFBR1*
❒ *ADAMTS2*	❒ *CAV3*	❒ *DTNA*	❒ *KCND3*	❒ *MIB1*	❒ *MYLK2*	❒ *RIN2*	❒ *TGFBR2*
❒ *AKAP9*	❒ *CBS*	❒ *EFEMP2*	❒ *KCNE1*	❒ *MTND1**	❒ *MYOZ2*	❒ *RIT1*	❒ *TMEM43*
❒ *ALDH18A1*	❒ *CHRM2*	❒ *EIF2AK4*	❒ *KCNE2*	❒ *MTND5**	❒ *MYPN*	❒ *RYR2*	❒ *TMPO*
❒ *ALMS1*	❒ *CHST14*	❒ *ELN*	❒ *KCNE3*	❒ *MTND6**	❒ *NEBL*	❒ *SCN10A*	❒ *TNNC1*
❒ *ALPK3*	❒ *COL11A1*	❒ *EMD^*	❒ *KCNE1L^*	❒ *MTTD**	❒ *NEXN*	❒ *SCN1B^*	❒ *TNNI3*
❒ *ANK2*	❒ *COL11A2*	❒ *ENG*	❒ *KCNH2*	❒ *MTTG**	❒ *NKX2-5*	❒ *SCN2B*	❒ *TNNT2*
❒ *ANKRD1*	❒ *COL1A1*	❒ *FBLN5*	❒ *KCNJ2*	❒ *MTTH**	❒ *NOTCH1*	❒ *SCN3B*	❒ *TPM1*
❒ *APOB*	❒ *COL1A2*	❒ *FBN1*	❒ *KCNJ5*	❒ *MTTI**	❒ *NRAS*	❒ *SCN4B*	❒ *TRDN*
❒ *ATP6V0A2*	❒ *COL2A1*	❒ *FBN2*	❒ *KCNJ8*	❒ *MTTK**	❒ *PCSK9*	❒ *SCN5A*	❒ *TRPM4*
❒ *ATP7A*	❒ *COL3A1*	❒ *FHL1*	❒ *KCNQ1*	❒ *MTTL1**	❒ *PDLIM3*	❒ *SGCD*	❒ *TTN*
❒ *B3GALT6**	❒ *COL5A1*	❒ *FKBP14*	❒ *KRAS*	❒ *MTTL2**	❒ *PKP2*	❒ *SKI*	❒ *TTR*
❒ *B4GALT7*	❒ *COL5A2*	❒ *FKRP**	❒ *LAMA4*	❒ *MTTM**	❒ *PLN*	❒ *SLC2A10*	❒ *TXNRD2*
❒ *BAG3*	❒ *COL9A1*	❒ *FKTN*	❒ *LAMP2*	❒ *MTTQ**	❒ *PLOD1*	❒ *SLC39A13*	❒ *VCL*
❒ *BMPR2*	❒ *COL9A2*	❒ *FLNA*	❒ *LDB3*	❒ *MTTS1**	❒ *PRDM5*	❒ *SMAD3*	❒ *ZNF469*
❒ *BRAF*	❒ *CRYAB*	❒ *GATAD1*	❒ *LDLR*	❒ *MTTS2**	❒ *PRDM16*	❒ *SMAD4*	
❒ *CACNA1C*	❒ *CSRP3*	❒ *GDF2*	❒ *LDLRAP1*	❒ *MURC*	❒ *PRKAG2*	❒ *SMAD9*	
❒ *CACNA2D1*	❒ *DES*	❒ *GLA*	❒ *LMNA*	❒ *MYBPC3*	❒ *PRKG1*	❒ *SNTA1*	
❒ *CACNB2*	❒ *DMD*	❒ *GPD1L*	❒ *LTBP4*	❒ *MYH6*	❒ *PTPN11*	❒ *SOS1*	

Expanded Phenotype Genes

❒ *ACADVL*	❒ *CTNNA3*	❒ *GLB1*	❒ *PLEC*	❒ *TBX1**
❒ *ACTA1*	❒ *DNAJC19*	❒ *JAG1*	❒ *SCARF2*	❒ *TBX5*
❒ *ADAMTSL4*	❒ *ELAC2*	❒ *KCNA5*	❒ *SCO2*	❒ *TMEM70*
❒ *AGL*	❒ *EYA4*	❒ *KCNK3^*	❒ *SLC25A20*	❒ *TRIM63*
❒ *ASPH*	❒ *FOXC2*	❒ *KLF10*	❒ *SLC25A3*	❒ *TSFM*
❒ *COL4A1*	❒ *FOXF1*	❒ *MRPS22*	❒ *SLC25A4*	❒ *UPF3B*
❒ *COX15*	❒ *FOXRED1*	❒ *MTO1*	❒ *SMS*	❒ *XK*
❒ *CPT1A*	❒ *GAA*	❒ *MYOM1*	❒ *SYNE1*	
❒ *CTF1**	❒ *GJA5*	❒ *NPPA*	❒ *SYNE2*	

Limited Evidence Genes

❒ *CALR3*	❒ *KCNB2*	❒ *NOS1AP*
❒ *COA5*	❒ *KCNJ16*	❒ *PLOD3*
❒ *COL9A3*	❒ *KCNT1*	❒ *RASA2*
❒ *FHL2*	❒ *MAP3K8*	❒ *SCNN1A*
❒ *FHOD3*	❒ *MRPL3*	❒ *SLMAP*
❒ *FOXE3**	❒ *MYO6*	❒ *SPRY1*

Familial Variant Testing (Targeted Testing)

❒ 9011: Testing for a previously identified familial variant

Please Note: Familial variant testing only requires ordering 9011 and not the original panel test ordered for the proband. Checking any panel test option (in the section below) in addition to 9011 may create a delay in the start of your test and affect turn-around time.

Gene: _____ Variant: _____

Proband Name: _____ Relationship to proband: _____

Proband GeneDx Accession #: _____

❒ Positive control included - **Positive control is recommended if previous test was performed at another lab.**

❒ Family Member Test Report included - A clear copy of the test report on the variant positive family member is recommended if previous test was performed at another lab.

Other Cardiac-Related Genetic Tests

❒ **697 - HHT Sequencing and Del/Dup Panel (5 genes):** *ACVRL1, ENG, GDF2, RASA1, SMAD4*

❒ **696 - PAH Sequencing and Del/Dup Panel (7 genes):** *ACVRL1, BMPR2, CAV1, EIF2AK4, ENG, GDF2, SMAD9*

❒ **534 - Noonan and RASopathies Sequencing Panel (19 genes):** *A2ML1*, ACTB*, ACTG1*, BRAF*, CBL*, HRAS*, KAT6B*, KRAS*, LZTR1*, MAP2K1*, MAP2K2*, NRAS*, PTPN11*, RAF1*, RIT1*, SOS1*, SOS2*, SHOC2*, SPRED1**

❒ **910 - GenomeDx: Whole-Genome Chromosome Microarray (CMA)**

❒ **1004 - Alagille syndrome (sequencing and del/dup of *JAG1*)**

❒ **363 - Cardiac Amyloidosis (*TTR** gene sequencing)**

❒ **2361 - Holt Oram syndrome (*TBX5** gene sequencing)**

❒ **401 - Supravalvular Aortic Stenosis (*ELN** gene sequencing)**

* Del/Dup analysis not offered ^ Gene level resolution; may not detect exon level events

GeneDx
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Informed Consent and Authorization Form

Account # Account Name

First Name Last Name Date of Birth (mm/dd/yy)

I understand that my health care provider has ordered the following genetic testing for {me/my child}:_____.

General Information About Genetic Testing

What is genetic testing?

DNA provides instructions for our body's growth and development. Genes are distinct sequences of DNA, and are arranged on chromosomes. The DNA in a gene contains instructions for making proteins, which determine things like growth and metabolism as well as traits like eye color and blood type. Genetic disorders are caused by certain changes in DNA affecting the structure or number of chromosomes. Genetic testing is a laboratory test that tries to identify these changes in chromosomes or the DNA. Genetic testing can be a diagnostic test, which is used to identify or rule out a specific genetic condition. Genetic screening tests are used to assess the chance for a person to develop or have a child with a genetic condition. Genetic screening tests are not typically diagnostic and results may require additional testing.

The purpose of this test is to see if I, or my child, may have a genetic variant or chromosome rearrangement causing a genetic disorder or to determine the chance that I, or my child, will develop or pass on a genetic disorder in the future. 'My child' can also mean my unborn child, for the purposes of this consent.

If I/my child already know the specific gene variant(s) or chromosome rearrangement that causes the genetic disorder in my family, I will inform the laboratory of this information.

What could I learn from this genetic test?

The following describes the possible results from the test:

1) Positive: A positive result indicates that a genetic variant has been identified that explains the cause of my/my child's genetic disorder or indicates that I/my child am at increased risk to develop the disorder in the future. It is possible to test positive for more than one genetic variant.

2) Negative: A negative result indicates that no disease-causing genetic variant was identified by the test performed. It does not guarantee that I/my child will be healthy or free from genetic disorders or medical conditions. If I/my child test negative for a variant known to cause the genetic disorder in other members of my/my child's family, this result rules out a diagnosis of the same genetic disorder in me/my child due to this specific change.

3) Inconclusive/Variant of Uncertain Significance (VUS): A finding of a variant of uncertain significance indicates that a genetic change was detected, but it is currently unknown whether that change is associated with a genetic disorder either now or in the future. A variant of uncertain significance is not the same as a positive result and does not clarify whether I/my child is at increased risk to develop a genetic disorder. The change could be a normal genetic variant or it could be disease-causing. Further analysis may be recommended, including testing parents and other family members. Detailed medical records or information from other family members also may be needed to help clarify results.

4) Unexpected results: In rare instances, this test may reveal an important genetic change that is not directly related to the reason for ordering this test. For example, this test may tell me about the risk for another genetic condition I/my child is not aware of or it may indicate differences in the number or rearrangement of sex chromosomes. This information may be disclosed to the ordering health care provider if it likely impacts medical care.

Result interpretation is based on currently available information in the medical literature, research and scientific databases. Because the literature, medical and scientific knowledge are constantly changing, new information that becomes available in the future may replace or add to the information GeneDx used to interpret my/my child's results. Providers can contact GeneDx at any time to discuss the classification of an identified variant. In addition, I or my/my child's health care providers may monitor publicly available resources used by the medical community, such as ClinVar (www.clinvar.com), to find current information about the clinical interpretation of my/my child's variant(s).

For tests that evaluate data from multiple family members, my spouse, or partner concurrently, results may be included in a single comprehensive report.

What are the risks and limitations of this genetic test?

- Genetic testing is an important part of the diagnostic process. However, genetic tests may not always give a definitive answer. In some cases, testing may not identify a genetic variant even though one exists. This may be due to limitations in current medical knowledge or testing technology.
- Accurate interpretation of test results may require knowing the true biological relationships in a family. Failing to accurately state the biological relationships in my/my child's family may result in incorrect interpretation of results, incorrect diagnoses, and/or inconclusive test results. In some cases, genetic testing can reveal that the true biological relationships in a family are not as they were reported. This includes non-paternity (the stated father of an individual is not the biological father) and consanguinity (the parents of an individual are related by blood). It may be necessary to report these findings to the health care provider who ordered the test.
- Genetic testing is highly accurate. Rarely, inaccurate results may occur for various reasons. These reasons include, but are not limited to: mislabeled samples, inaccurate reporting of clinical/medical information, rare technical errors, or unusual circumstances such as bone marrow transplantation, or the presence of change(s) in such a small percentage of cells that the change(s) may not be detectable by the test (mosaicism).
- This test does not have the ability to detect all of the long-term medical risks that I/my child might experience. The result of this test does not guarantee my health or the health of my child/fetus. Other diagnostic tests may still need to be done, especially when only a genetic screening test has been performed previously.
- Occasionally, an additional sample may be needed if the initial specimen is not adequate.

Patient Confidentiality and Genetic Counseling

It is recommended that I receive genetic counseling before and after having this genetic test. I can find a genetic counselor in my area here: www.nsgc.org. Further testing or additional consultations with a health care provider may be necessary.

To maintain confidentiality, the test results will only be released to the referring health care provider, to the ordering laboratory, to me, to other health care providers involved in my/my child's diagnosis and treatment, or to others as entitled by law. The United States Federal Government has enacted several laws that prohibit discrimination based on genetic test results by health insurance companies and employers. In addition, these laws prohibit unauthorized disclosure of this information. For more information, I understand that I can visit www.genome.gov/10002077.

International Specimens

If I/my child reside outside the United States, I attest that by providing a sample for testing, I am not knowingly violating any export ban or other legal restriction in the country of my/my child's residence.

Additional information about the specific test being ordered is available from my health care provider or I can go to the GeneDx website, www.genedx.com. This information includes the specific types of genetic disorders that can be identified by the genetic test, the likelihood of a positive result, the limitations of genetic testing, as well as information about how specimens and information are stored and used.

GeneDx
an OPKO Health Company

A. Notifier:

B. Patient Name: **C. Identification Number:**

Advance Beneficiary Notice of Noncoverage (ABN)

NOTE: If Medicare doesn't pay for **D.**_____below, you may have to pay. Medicare does not pay for everything, even some care that you or your health care provider have good reason to think you need. We expect Medicare may not pay for the **D.**_____below.

D.	E. Reason Medicare May Not Pay:	F. Estimated Cost

WHAT YOU NEED TO DO NOW:

- Read this notice, so you can make an informed decision about your care.
- Ask us any questions that you may have after you finish reading.
- Choose an option below about whether to receive the **D.**_____listed above.
  Note: If you choose Option 1 or 2, we may help you to use any other insurance that you might have, but Medicare cannot require us to do this.

G. OPTIONS: Check only one box. We cannot choose a box for you.

☐ **OPTION 1.** I want the **D.**_____listed above. You may ask to be paid now, but I also want Medicare billed for an official decision on payment, which is sent to me on a Medicare Summary Notice (MSN). I understand that if Medicare doesn't pay, I am responsible for payment, but **I can appeal to Medicare** by following the directions on the MSN. If Medicare does pay, you will refund any payments I made to you, less co-pays or deductibles.

☐ **OPTION 2.** I want the **D.**_____listed above, but do not bill Medicare. You may ask to be paid now as I am responsible for payment. **I cannot appeal if Medicare is not billed**.

☐ **OPTION 3.** I don't want the **D.**_____listed above. I understand with this choice I am **not** responsible for payment, and **I cannot appeal to see if Medicare would pay.**

H. Additional Information:

This notice gives our opinion, not an official Medicare decision. If you have other questions on this notice or Medicare billing, call **1-800-MEDICARE** (1-800-633-4227/**TTY:** 1-877-486-2048). Signing below means that you have received and understand this notice. You also receive a copy.

I. Signature:	J. Date:

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