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LABORATORY OF GENETICS AND GENOMICS
For local courier service and/or inquiries, please contact 513-636-4474 • Fax: 513-636-4373
www.cincinnatichildrens.org/moleculargenetics • Email: moleculargenetics@cchmc.org

Mailing Address:
3333 Burnet Avenue, Room R1042
Cincinnati, OH 45229

CARDIOVASCULAR DISEASES TESTING REQUISITION

All Information Must Be Completed Before Sample Can Be Processed

PATIENT INFORMATION

Patient Name: _____, _____, _____
Last First MI

Address: _____

_____

Home Phone: _____

MR# _____ Date of Birth _____ / _____ /_____

Gender: ☐ Male ☐ Female

ETHNIC/RACIAL BACKGROUND (Choose All)

☐ European American (White)
☐ African-American (Black)
☐ Native American or Alaskan
☐ Asian-American
☐ Pacific Islander
☐ Ashkenazi Jewish ancestry
☐ Latino-Hispanic _____
(specify country/region of origin)
☐ Other _____
(specify country/region of origin)

BILLING INFORMATION (Choose ONE method of payment)

☐ REFERRING INSTITUTION

Institution: _____

Address: _____

City/State/Zip: _____

Accounts Payable Contact Name: _____

Phone: _____

Fax: _____

Email: _____

☐ COMMERCIAL INSURANCE*

Insurance can only be billed if requested at the time of service.

Policy Holder Name: _____

Gender: _____ Date of Birth _____ / _____ / _____

Authorization Number: _____

Insurance ID Number: _____

Insurance Name: _____

Insurance Address: _____

City/State/Zip: _____

Insurance Phone Number: _____

*** PLEASE NOTE:**

- We will not bill Medicaid, Medicaid HMO, or Medicare except for the following: CCHMC Patients, CCHMC Providers, or Designated Regional Counties.
- If you have questions, please call 1-866-450-4198 for complete details.

SAMPLE/SPECIMEN INFORMATION

Has patient received a bone marrow transplant? ☐ Yes ☐ No

Note: For post-transplant patients, we accept pre-transplant samples or post-transplant skin fibroblasts **ONLY** (blood, saliva, and cytobrushes are not accepted). Culturing of skin fibroblasts is done at an additional charge.

SPECIMEN TYPE:** ☐ Amniotic fluid ☐ Blood ☐ Cord blood ☐ DNA ☐ CVS
☐ Saliva ☐ Tissue (specify): _____

Specimen Date: _____ / _____ / _____ Time: _____

Specimen Amount: _____

Each test requires 3 mL of whole blood in EDTA tube. Please call before sending alternate tissue samples, and for free cytobrush or saliva collection kits.

DRAWN BY: _____

*Phlebotomist must initial tube of specimen to confirm sample identity

****If prenatal, maternal blood is required for maternal cell contamination.**

Maternal Blood Collection Date: ____ / _____ / _____ Time: _____

REFERRING PHYSICIAN

Physician Name (print): _____

Address: _____

Phone: (_____) _____ Fax: (_____) _____

Email: _____

Genetic Counselor/Lab Contact Name: _____

Phone: (_____) _____ Fax: (_____) _____

Email: _____

_____ Date: ____/ _____/ ____

Referring Physician Signature (REQUIRED)

☐ Patient signed completed ABN

Medical Necessity Regulations: At the government's request, the Laboratory of Genetics and Genomics would like to remind all physicians that when ordering tests that will be paid under federal health care programs, including Medicare and Medicaid programs, that these programs will pay only for those tests the relevant program deems to be (1) included as covered services, (2) reasonable, (3) medically necessary for the treatment and diagnosis of the patient, and (4) not for screening purposes.

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Patient Name: _____ Date of Birth: _____

INDICATIONS/DIAGNOSIS/ICD-10 CODE

Reason for Testing:

- ☐ Suspected diagnosis: _____
- ☐ Carrier (Heterozygote) testing
- ☐ Presymptomatic diagnosis of at-risk sibling
- ☐ Family history of disease: _____

PEDIGREE OR FAMILY HISTORY

Parental Consanguinity ☐ Y ☐ N

CLINICAL FEATURES (CHECK ALL THAT APPLY)

Please attach detailed medical records, clinical summary, pictures and family history. Clinical history is crucial for accurate interpretation of results.

- ☐ Absent sinoatrial node
- ☐ Aortic arch abnormality
- ☐ Aortic coarctation
- ☐ Aortic dilation
- ☐ Aortic dissection
- ☐ Aortic stenosis
- ☐ Arrhythmia
- ☐ Arterial aneurysm or tortuosity
- ☐ Asymmetric septal hypertrophy
- ☐ Atrial arrhythmias
- ☐ Atrial enlargement
- ☐ Atrial fibrillation
- ☐ Atrial isomerism
- ☐ Atrial septal defect (ASD)
- ☐ AV block
- ☐ AV canal
- ☐ Bicuspid aortic valve
- ☐ Brugada syndrome
- ☐ Cardiac arrest
- ☐ Catecholaminergic polymorphic ventricular tachycardia (CPVT)
- ☐ Concentric hypertrophy
- ☐ Congenital heart disease
- ☐ Dextrocardia
- ☐ Dextro-transposition of the rreat arteries (d-TGA)
- ☐ Dilated cardiomyopathy (DCM)
- ☐ Double outlet right ventricle (DORV)
- ☐ Fatty infiltration of the myocardium
- ☐ Hypertrophic cardiomyopathy (HCM)
- ☐ Inferior vena cava (IVC) abnormality
- ☐ Left ventricular non-compaction cardiomyopathy (LVNC)
- ☐ Levocardia
- ☐ Levo-transposition of the great arteries (l-TGA)
- ☐ Mesocardia
- ☐ Mitral annulus calcification (age <40)
- ☐ Mitral stenosis
- ☐ Mitral valve prolapse
- ☐ Prolonged QT interval: _____msec
- ☐ Partial anomalous pulmonary venous return (PAPVR)
- ☐ Patent ductus arteriosus
- ☐ Pulmonary artery dilation
- ☐ Pulmonary hypertension
- ☐ Pulmonary stenosis (PS)
- ☐ Pulmonic atresia
- ☐ Reduced ejection fraction/endocardial shortening fraction
- ☐ Restrictive Cardiomyopathy (RCM)
- ☐ Right ventricular dilation
- ☐ Short QT interval
- ☐ Single ventricle
- ☐ Situs anomalies
- ☐ Subpulmonic stenosis
- ☐ Superior vena cava (SVC) abnormality
- ☐ Tetralogy of Fallot
- ☐ Total anomalous pulmonary venous return (TAPVR)
- ☐ Ventricular arrhythmias
- ☐ Ventricular dysfunction
- ☐ Ventricular enlargement/dilation
- ☐ Ventricular septal defect (VSD)
- ☐ Other(s): _____

_____

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Patient Name: _____ Date of Birth: _____

TEST(S) REQUESTED

Arrythmia Panels

☐ **Cardiac Channelopathy Panel (81 genes)**
(ABCC9, ACTN2, AKAP9, ANK2, ANKRD1, BAG3, CACNA1C, CACNA2D1, CACNB2, CALM1, CALM2, CALM3, CASQ2, CAV3, CDH2, CPT1A, CTNNA3, DES, DSC2, DSG2, DSP, EMD, FLNC, GATA4, GATA5, GATA6, GJA5, GNB5, GPD1L, GYG1, HCN4, JUP, KCNA5, KCND3, KCNE1, KCNE1L, KCNE2, KCNE3, KCNH2, KCNJ2, KCNJ5, KCNJ8, KCNK3, KCNQ1, KCNQ3, LDB3, LMNA, MYH6, MYH7, MYL4, NKX2-5, NOS1AP, NPPA, NUP155, PDLIM3, PKP2, PLN, PPA2, PRKAG2, RANGRF, RBM20, RYR2, SCN10A, SCN1B, SCN2B, SCN3B, SCN4B, SCN5A, SLC25A20, SLMAP, SNTA1, TBX5, TECRL, TGFB3, TMEM43, TNNI3, TNNI3K, TNNT2, TRDN, TRPM4, TTN)

☐ **Atrial Fibrillation (A Fib) Panel (28 genes)**
(ABCC9, CACNB2, GATA4, GATA6, GJA5, HCN4, KCNA5, KCND3, KCNE1, KCNE1L, KCNE2, KCNH2, KCNJ2, KCNJ5, KCNJ8, KCNQ1, LDB3, LMNA, NPPA, NUP155, RYR2, SCN10A, SCN1B, SCN2B, SCN3B, SCN4B, SCN5A, TBX5)

☐ **Atrioventricular Block (AV Block) Panel (7 genes)**
(DES, EMD, LMNA, NKX2-5, SCN1B, SCN5A, TRPM4)

☐ **Brugada Syndrome Panel (21 genes)**
(ABCC9, CACNA1C, CACNA2D1, CACNB2, CAV3, GPD1L, HCN4, KCND3, KCNE1L, KCNE3, KCNH2, KCNJ8, PKP2, RANGRF, SCN10A, SCN1B, SCN2B, SCN3B, SCN5A, SLMAP, TRPM4)

☐ **Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT) Panel (11 genes)**
(ANK2, CALM1, CALM2, CALM3, CASQ2, KCNJ2, KCNQ1, RYR2, SCN5A, TECRL, TRDN)

☐ **Long QT Syndrome Panel (19 genes)**
(AKAP9, ANK2, CACNA1C, CALM1, CALM2, CALM3, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNJ5, KCNQ1, NOS1AP, SCN4B, SCN5A, SNTA1, TECRL, TRDN)

☐ **Short QT Syndrome Panel (6 genes)**
(CACNA1C, CACNA2D1, CACNB2, KCNH2, KCNJ2, KCNQ1)

Connective Tissue Disorders Panels

☐ **Thoracic Aortic Aneurysm Panel (49 genes)**
(ABL1, ACTA2, ADAMTS10, ADAMTS2, ADAMTSL4, ALDH18A1, BGN, CBS, CHST14, COL1A1, COL1A2, COL2A1, COL3A1, COL5A1, COL5A2, EFEMP2, ELN, FBLN5, FBN1, FBN2, FKBP14, FLNA, FOXE3, GATA5, LOX, LTBP3, MAT2A, MED12, MFAP5, MYH11, MYLK, NOTCH1, PLOD1, PRKG1, SKI, SLC2A10, SLC39A13, SMAD2, SMAD3, SMAD4, SMAD6, TAB2, TGFB2, TGFB3, TGFBR1, TGFBR2, TGFBR3, TNXB, ZNF469)

☐ **Marfan Syndrome and MFS Related Disorders Panel (3 genes)**
(FBN1, TGFBR1, TGFBR2)

Cardiomyopathy Panels

☐ **Comprehensive Cardiomyopathy Panel (135 genes)**
(AARS2, ABCC9, ACAD9, ACADVL, ACTA1, ACTC1, ACTN2, AGK, AGL, ALMS1, ALPK3, ANKRD1, BAG3, BRAF, CACNA1C, CALR3, CASQ2, CAV3, CAVIN4, CBL, CDH2, CHRM2, COX15, CPT2, CRYAB, CSRP3, CTNNA3, DES, DMD, DOLK, DSC2, DSG2, DSP, DTNA, ELAC2, EMD, EPG5, EYA4, FBXO32, FHL1, FHL2, FKRP, FKTN, FLNC, FXN, GAA, GATA4, GATA6, GATAD1, GBE1, GLA, GLB1, HAND1, HCN4, HRAS, ILK, JPH2, JUP, KRAS, LAMA4, LAMP2, LDB3, LMNA, LRRC10, LZTR1, MAP2K1, MAP2K2, MIB1, MTO1, MYBPC3, MYH6, MYH7, MYL2, MYL3, MYL4, MYLK2, MYO6, MYOM1, MYOZ2, MYPN, NDUFAF2, NEBL, NEXN, NF1, NKX2-5, NPPA, NRAS, PCCA, PCCB, PDLIM3, PKP2, PLEKHM2, PLN, PPP1CB, PRDM16, PRKAG2, PSEN1, PSEN2, PTPN11, RAF1, RBM20, RIT1, RMND1, RYR2, SCN5A, SCO2, SDHA, SGCD, SHOC2, SLC22A5, SLC25A4, SOS1, SOS2, SPEG, SPRED1, SURF1, SYNE2, TAB2, TAZ, TBX20, TBX5, TCAP, TGFB3, TMEM43, TMPO, TNNC1, TNNI3, TNNI3K, TNNT2, TPM1, TRDN, TTN, TTR, TXNRD2, VCL)

☐ **Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC) Panel (18 genes)**
(CDH2, CTNNA3, DES, DSC2, DSG2, DSP, FLNC, JUP, LDB3, LMNA, MYH7, PKP2, PLN, RYR2, SCN5A, TGFB3, TMEM43, TTN)

☐ **Dilated Cardiomyopathy (DCM) Panel (73 genes)**
(ABCC9, ACTC1, ACTN2, ALMS1, ALPK3, ANKRD1, BAG3, CAV3, CHRM2, CRYAB, CSRP3, DES, DMD, DOLK, DSC2, DSG2, DSP, DTNA, EMD, EYA4, FHL2, FKRP, FKTN, FLNC, GATA6, GA-TAD1, GLA, HCN4, ILK, JPH2, JUP, LAMA4, LAMP2, LDB3, LMNA, LRRC10, MIB1, MYBPC3, MYH6, MYH7, MYL2, MYL3, MYPN, NEBL, NEXN, NKX2-5, PDLIM3, PKP2, PLN, PRDM16, PRKAG2, PTPN11, RAF1, RBM20, RYR2, SCN5A, SDHA, SGCD, SPEG, TAZ, TBX20, TCAP, TMEM43, TMPO, TNNC1, TNNI3, TNNT2, TPM1, TRDN, TTN, TTR, TXNRD2, VCL)

☐ **Hypertrophic Cardiomyopathy (HCM) Panel (98 genes)**
(AARS2, ABCC9, ACAD9, ACADVL, ACTA1, ACTC1, ACTN2, AGK, AGL, ALPK3, ANKRD1, BAG3, BRAF, CACNA1C, CALR3, CAV3, CBL, COX15, CPT2, CRYAB, CSRP3, DES, DMD, DSC2, DSG2, DSP, DTNA, ELAC2, EMD, EPG5, FHL1, FKTN, FLNC, FXN, GAA, GATA4, GATAD1, GLA, HRAS, ILK, JPH2, JUP, KRAS, LAMA4, LAMP2, LDB3, LMNA, LZTR1, MAP2K1, MAP2K2, MTO1, MYBPC3, MYH6, MYH7, MYL2, MYL3, MYLK2, MYO6, MYOM1, MYOZ2, MYPN, NDUFAF2, NEBL, NEXN, NF1, NRAS, PDLIM3, PKP2, PLN, PPP1CB, PRKAG2, PTPN11, RAF1, RBM20, RIT1, RYR2, SCN5A, SCO2, SDHA, SGCD, SHOC2, SLC22A5, SLC25A4, SOS1, SOS2, SPRED1, SURF1, TAZ, TCAP, TMEM43, TMPO, TNNC1, TNNI3, TNNT2, TPM1, TTN, TTR, VCL)

☐ **Left Ventricular Noncompaction (LVNC) Panel (36 genes)**
(ABCC9, ACTC1, ACTN2, BAG3, CTNNA3, DES, DMD, DSC2, DSG2, DSP, DTNA, EMD, FBXO32, FLNC, HCN4, JPH2, JUP, LAMP2, LDB3, LMNA, MYBPC3, MYH6, MYH7, PKP2, PLEKHM2, PLN, RAF1, RBM20, RYR2, SCN5A, TAZ, TCAP, TNNT2, TPM1, TTN, VCL)

☐ **Restrictive Cardiomyopathy (RCM) Panel (9 genes)**
(ACTC1, BAG3, CRYAB, DES, MYBPC3, MYH7, TNNI3, TNNT2, TTR)

Congenital Heart Disease Panels

☐ **Congenital Heart Disease Panel (3 genes)**
(NKX2-5, TBX1, TBX5)

☐ **Heterotaxy Panel (115 genes)**
(ACTC1, ACVR2B, AK7, ALMS1, ANKS6, ARMC4, BBS1, BBS10, BBS2, BCL9L, BCOR, BRAF, C21ORF59, CBL, CCDC103, CCDC11, CCDC114, CCDC151, CCDC39, CCDC40, CCDC65, CCNO, CENPF, CFAP300, CFC1, CHD7, CRELD1, DNAAF1, DNAAF2, DNAAF3, DNAAF4, DNAAF5, DNAH1, DNAH11, DNAH5, DNAH8, DNAH9, DNAI1, DNAI2, DNAJB13, DNAL1, DRC1, ELN, EVC, EVC2, FOXF1, FOXH1, GAS2L2, GAS8, GATA4, GATA6, GDF1, GJA1, GPC3, HES7, HRAS, HYDIN, INVS, JAG1, KIF7, KRAS, LEFTY2, LMNA, LRRC56, LRRC6, MAP2K1, MAP2K2, MCIDAS, MED13L, MEGF8, MEIS2, MKS1, MMP21, MRE11, NAT10, NEK8, NF1, NKX2-5, NKX2-6, NME8, NODAL, NOTCH1, NOTCH2, NPHP3, NR2F2, NRAS, NSD1, OFD1, PIH1D3, PKD1L1, PKD2, PQBP1, PRRX1, PTPN11, RAF1, RIT1, RSPH1, RSPH3, RSPH4A, RSPH9, SCN5A, SHOC2, SHROOM3, SMAD2, SOS1, SPAG1, TBX1, TBX5, TCTN2, TTC25, UBR1, WDR35, ZIC3, ZMPSTE24, ZMYND10)

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Patient Name: _____ Date of Birth: _____

TEST(S) REQUESTED, CONTINUED

Congenital Heart Disease Panels, continued

☐ **RASopathy/Noonan Spectrum Disorders Panel (31 genes)**
(A2ML1, ACTB, ACTG1, BRAF, CBL, CDC42, HRAS, KAT6B, KRAS, LZTR1, MAP2K1, MAP2K2, NF1, NF2, NRAS, NSUN2, PPP1CB, PTEN, PTPN11, RAF1, RASA1, RASA2, RIT1, RRAS, SHOC2, SOS1, SOS2, SPRED1, TBCK, TSC1, TSC2)

☐ Parental blood provided for parental comparative analysis

Familial information — required for parental comparative analysis

Biological mother:

Name: _____

DOB (MM/DD/YYYY): _____

Clinical Feature (If any): _____

_____

Biological father:

Name: _____

DOB (MM/DD/YYYY): _____

Clinical Feature (If any): _____

_____

Other Panels

☐ **Pulmonary Arterial Hypertension (PAH) Panel (20 genes)**
(ACVRL1, BMPR2, CAV1, EIF2AK4, ENG, FOXF1, GDF2, GGCX, KCNA5, KCNK3, KLK1, NFU1, NOTCH1, NOTCH3, RASA1, SMAD4, SMAD9, SOX17, TBX4, TOPBP1)

Note: Single gene sequencing is available for all genes listed in the next-generation panels through custom gene sequencing.

Indivudual Gene Tests

☐ *APOB* (R3500Q/R3500W) Sequencing Analysis
☐ *CAV3* Gene Sequencing
☐ *DES* Gene Sequencing
☐ *FBN1* Gene Sequencing
☐ *KCNJ2* Gene Sequencing
☐ *LDLR* Gene Sequencing
☐ *MYBPC3* Gene Sequencing
☐ *MYH7* Gene Sequencing
☐ *NKX2-5* Gene Sequencing
☐ *TAZ* Gene Sequencing
☐ *TBX1* Gene Sequencing
☐ *TBX5* Gene Sequencing
☐ *TGFBR1* Gene Sequencing
☐ *TGFBR2* Gene Sequencing
☐ *TTN* Gene Sequencing
☐ *TNNT2* Gene Sequencing
☐ *ZIC3* Gene Sequencing

☐ Targeted (family specific) variant analysis for _____ gene
If testing was **not** performed at CCHMC, please include proband's report and at least 100ng of proband's DNA to use as a positive control.

Proband's name _____

Proband's DOB _____

Proband's variant _____

Please call 513-636-4474 to discuss any family-specific variant analysis with genetic counselor prior to shipment.

CUSTOM GENE SEQUENCING

Gene(s) to be sequenced (specify): _____

_____

Only genes with clear published functional relationship to rare diseases are accepted.

Suspected syndrome/ condition: _____

Please choose one of the following:

☐ Full gene(s) sequencing

☐ Full gene(s) sequencing with reflex to deletion and duplication analysis, if indicated **(please see list of genes available for del/dup at www.cincinnatichildrens.org/deldup)**

☐ Familial mutation analysis

Proband's name: _____

Proband's DOB: _____

Proband's mutation: _____

Patient's relation to proband: _____

If testing was **not** performed at CCHMC, please include proband's report and at least 100ng of proband's DNA to use as a positive control.

DELETION AND DUPLICATION ASSAY

Gene(s) to be analyzed (specify): _____

_____

Please see list of available genes at: www.cincinnatichildrens.org/deldup

Suspected syndrome/ condition: _____

Please choose one of the following:

☐ Deletion and duplication analysis of gene(s) specified above

☐ Deletion and duplication analysis of gene(s) specified above with reflex to sequencing, if indicated

☐ Analysis of gene(s) specified above from previously analyzed deletion and duplication

☐ Familial deletion analysis

Proband's name: _____

Proband's DOB: _____

Proband's mutation: _____

Patient's relation to proband: _____

If testing was **not** performed at CCHMC, please include proband's report and at least 100ng of proband's DNA to use as a positive control.

Whole Exome Sequencing — Exome sequencing test requisition available at: www.cincinnatichildrens.org/exome