

# Kardiologipanel 2023

## Arytmier och kardiomyopatier (93 st)

ABCC9, ACTC1, ACTN2, ALPK3, ALMS1, BAG3, CACNA1C, CACNA1D, CACNA2D1, CACNB2, CALM1, CALM2, CALM3, CASQ2, CAV3, CNBP, COX15, CRYAB, CSRP3, DES, DMD, DMPK, DSC2, DSG2, DSP, EMD, FHL1, FHOD3, FLNC, FXN, GAA, GJA5, GLA, GNB2, GNB5, GPD1L, HCN4, JPH2, JUP, KCNA5, KCND3, KCNE1, KCNE2, KCNE3, KCNE5, KCNH2, KCNJ2, KCNJ5, KCNJ8, KCNQ1, LAMP2, LDB3, LMNA, MYBPC3, MYH7, MYL2, MYL3, MYL4, MYO6, NEXN, NKX2-5, NPPA, PKP2, PLN, PRDM16, PRKAG2, PTPN11, RAF1, RANGRF, RBM20, RIT1, RYR2, SCN10A, SCN1B, SCN2B, SCN3B, SCN5A, SGO1, SLC25A4, SLMAP, TAFAZZIN, TBX5, TECRL, TMEM43, TNNC1, TNNI3, TNNI3K, TNNT2, TPM1, TRDN, TRPM4, TTN, TTR, VCL

## Arytmier (53 st)

ABCC9, CACNA1C, CACNA1D, CACNA2D1, CACNB2, CALM1, CALM2, CALM3, CASQ2, CNBP, DES, DMD, DMPK, EMD, GJA5, GJC1, GLA, GNB2, GNB5, GPD1L, ABCC9, CACNA1C, CACNA1D, CACNA2D1, CACNB2, CALM1, CALM2, CALM3, CASQ2, CNBP, DES, DMD, DMPK, EMD, GJA5, GJC1, GLA, GNB2, GNB5, GPD1L, HCN4, KCNA5, KCND3, KCNE1, KCNE2, KCNE3, KCNE5, KCNH2, KCNJ2, KCNJ5, KCNJ8, KCNQ1, LAMP2, LMNA, MYL4, NKX2-5, NPPA, PRKAG2, RANGRF, RYR2, SCN10A, SCN1B, SCN2B, SCN3B, SCN5A, SGO1, SLMAP, TBX5, TECRL, TNNI3K, TRDN, TRPM4, TTN

## Brugada syndrom, BrS (1 st)

SCN5A

## Katekolaminerg polymorf ventrikeltakykardi, CPVT (8 st)

CALM1, CALM2, CALM3, CASQ2, KCNJ2, RYR2, TECRL, TRDN

## Förmaksflimmer (11 st)

GJA5, GJC1, KCNA5, KCNH2, KCNQ1, LMNA, MYL4, NPPA, SCN5A, TBX5, TTN

## Kort QT-syndrom, SQTS (4 st)

KCNH2, KCNJ2, KCNQ1, SLC4A3

## Långt QT-syndrom, LQTS (11 st)

CACNA1C, CALM1, CALM2, CALM3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNQ1, SCN5A, TRDN

## Kardiell konduktionsstörning, CCD/PCCD (16 st)

CNBP, DES, DMD, DMPK, EMD, GJC1, GLA, LAMP2, LMNA, MYL4, NKX2-5, PRKAG2, SCN5A, TBX5, TNNI3K, TRPM4

**Sinusknutedysfunktion, SND (11 st)**

CACNA1D, EMD, GNB2, GNB5, HCN4, KCNJ5, KCNQ1, LMNA, RYR2, SCN5A, SGO1

**Tidigt repolarisationssyndrom, ERS (19 st)**

ABCC9, CACNA1C, CACNA2D1, CACNB2, GPD1L, HCN4, KCND3, KCNE1L, KCNE3, KCNH2, KCNJ8, RANGRF, SCN10A, SCN1B, SCN2B, SCN3B, SCN5A, SLMAP, ABCC9, CACNA1C, CACNA2D1, CACNB2, GPD1L, HCN4, KCND3, KCNE1L, KCNE3, KCNH2, KCNJ8, RANGRF, SCN10A, SCN1B, SCN2B, SCN3B, SCN5A, SLMAP, TRPM4

**Kardiomyopatier (54 st)**

ABCC9, ACTC1, ACTN2, ALMS1, ALPK3, BAG3, CACNA1C, CAV3, COX15, CRYAB, CSRP3, DES, DSC2, DSG2, DSP, FHL1, FHOD3, FLNC, FXN, GAA, GLA, HCN4, ABCC9, ACTC1, ACTN2, ALMS1, ALPK3, BAG3, CACNA1C, CAV3, COX15, CRYAB, CSRP3, DES, DSC2, DSG2, DSP, FHL1, FHOD3, FLNC, FXN, GAA, GLA, HCN4, JPH2, JUP, LAMP2, LDB3, LMNA, MYBPC3, MYH7, MYL2, MYL3, MYO6, NEXN, NKX2-5, PKP2, PLN, PRDM16, PRKAG2, PTPN11, RAF1, RBM20, RIT1, RYR2, SCN5A, SLC25A4, TAFAZZIN, TBX5, TMEM43, TNNC1, TNNI3, TNNT2, TPM1, TTN, TTR, VCL

**Arytmogen kardiomyopati, ACM (15 st)**

BAG3, DES, DSC2, DSG2, DSP, FLNC, JUP, LDB3, LMNA, NKX2-5, PKP2, PLN, RBM20, SCN5A, TMEM43

**Dilaterad kardiomyopati, DCM (19 st)**

ACTC1, ACTN2, ALMS1, BAG3, DES, DSP, FLNC, JPH2, LMNA, MYH7, NEXN, PLN, RBM20, SCN5A, TNNC1, TNNI3, TNNT2, TPM1, TTN, VCL

**Hypertrofisk kardiomyopati, HCM (36 st)**

ABCC9, ACTC1, ACTN2, ALPK3, BAG3, CACNA1C, CAV3, COX15, CRYAB, CSRP3, DES, FHL1, FHOD3, FLNC, FXN, GAA, GLA, JPH2, LAMP2, LDB3, MYBPC3, MYH7, MYL2, MYL3, MYO6, PLN, PRKAG2, PTPN11, RAF1, RIT1, SLC25A4, TNNC1, TNNI3, TNNT2, TPM1, TTR

**Non-compaction kardiomyopati, NCCM (11 st)**

ACTC1, HCN4, LDB3, MYBPC3, MYH7, NKX2-5, PRDM16, RYR2, TAZ, TBX5, TTN

**Restriktiv kardiomyopati, RCM (7 st)**

ACTC1, FLNC, MYH7, TNNI3, TNNT2, TTN, TTR

## **Kliniskt tillämpbara gener**

### **Kardiovaskulära & metabola gener (27 st)**

ACTA2, ACTC1, APOB, CACNA1S, CASQ2, COL3A1, DSC2, DSG2, DSP, DSP, FBN1, FLNC, GAA, GJC1, GLA, HFE, KCNH2, KCNQ1, LDLR, LMNA, MYBPC3, MYH11, MYH7, MYL2, MYL3, PCSK9, PKP2, PRKAG2, RYR2, SCN5A, SMAD3, TGFBR1, TGFBR2, TMEM43, TNNI3, TNNT2, TPM1, TRDN, TTN

### **Kardiella gener**

ACTC1, CASQ2, DSC2, DSG2, DSP, FLNC, GAA, GLA, KCNH2, KCNQ1, LMNA, MYBPC3, MYH7, MYL2, MYL3, PKP2, PRKAG2, RYR2, SCN5A, TMEM43, TNNI3, TNNT2, TPM1, TRDN, TTN

### **Kongenital hjärtsjukdom**

#### **Kongenital hjärtsjukdom (141 st)**

ABL1, ACTC1, ACVR1, ACVR2B, ADAMTS10, AFF4, ANKRD11, ARID1A, ARID1B, B3GAT3, BCOR, BMPR2, BRAF, CDK13, CFC1, CHD4, CHD7, CHST14, CITED2, CREBBP, CRELD1, DLL4, DNAH11, DNAH5, DOCK6, EFTUD2, EHMT1, ELN, EP300, ESCO2, EVC, EVC2, FBN1, FGFR2, FLNA, FLT4, FOXC1, FOXC2, FOXH1, FOXP1, GATA4, GATA5, GATA6, GDF1, GJA1, GLI3, GPC3, HAAO, HAND1, HAND2, HDAC8, HNRNPK, HRAS, INVS, JAG1, KANSL1, KAT6A, KAT6B, KDM6A, KDR, KMT2A, KMT2D, KRAS, KYNU, LTBP2, LZTR1, MAP2K1, MAP2K2, MAP3K7, MED12, MED13L, MEIS2, MESP1, MYBPC3, MYH11, MYH6, MYH7, NF1, NIPBL, NKX2-5, NKX2-6, NODAL, NONO, NOTCH1, NOTCH2, NPHP3, NPHP4, NR2F2, NRAS, NSD1, NUP188, PBX1, PIGL, PIGV, PITX2, PKD1L1, PRDM6, PRKACB, PRKD1, PTPN11, RAB23, RAD21, RAF1, RBFOX2, RERE, RIT1, SALL1, SALL4, SETD5, SF3B4, SHOC2, SMAD2, SMAD3, SMAD4, SMAD6, SMARCA4, SMARCB1, SMARCE1, SMC1A, SMC3, SMG9, SON, SOS1, STRA6, TAB2, TBX1, TBX20, TBX5, TFAP2B, TGFBR1, TGFBR2, THOC6, TLL1, TMEM260, TRAF7, TXNL4A, UBR1, WASHC5, ZEB2, ZFPM2, ZIC3

#### **Kongenital hjärtsjukdom, icke syndromal (18 st)**

ACVR2B, CCDC11, CFAP53, CFC1, CRELD1, ELN, FLT4, GATA4, NKX2-5, NODAL, NOTCH1, NOTCH2, NR2F2, PKD1L1, TAB2, TBX5, TFAP2B, ZIC3

### **Referenser:**

PMID: 35390533, 33968641, 34012069, 34012068, 34345026, 33324992.

Congenital Heart Disease (CHD): <http://chdgene.victorchang.edu.au/>

### **Ansvarig:**

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