**پانل بیماری های قلبی**

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| **ردیف** | **نام بیماری** | **تعداد ژن** | **ژن های مورد بررسی** |
| 1 | Cardiomyopathy, dilated | 43 | ABCC9, ACTC1, ACTN2, ANKRD1, BAG3, CRYAB, CSRP3, DES, DMD, DSG2, DSP, EMD, EYA4, FKTN, GATAD1, LAMA4, LAMP2, LDB3, LMNA, MYBPC3, MYH6, MYH7, MYPN, NEBL, NEXN, PDLIM3, PLN, PRDM16, RAF1, RBM20, SCN5A, SDHA, SGCD, TAZ, TCAP, TMPO, TNNC1, TNNI3, TNNT2, TPM1, TTN, TTR, VCL |
| 2 | Cardiomyopathy, hypertrophic | 30 | ACTC1, ACTN2, ANKRD1, CALR3, CAV3, CSRP3, FHL1, GLA, JPH2, LAMP2, LDB3, MYBPC3\*, MYH6, MYH7\*, MYL2, MYL3, MYLK2, MYOZ2, MYPN, NEXN, PLN, PRKAG2, TCAP, TNNC1, TNNI3, TNNT2\*, TPM1, TTN, TTR, VCL |
| 3 | Cardiomyopathy, restrictive | 7 | ACTC1, BAG3, DES, MYH7, MYPN, TNNI3, TNNT2 |
| 4 | Left Ventricular Noncompaction Cardiomyopathy (LVNC) | 11 | ACTC1, DTNA, LDB3, LMNA, MIB1, MYBPC3, MYH7, PRDM16, TAZ, TNNT2, TPM1 |
| 5 | Atrial Fibrillation and Short QT Syndrome | 17 | ABCC9, CACNA1C, CACNA2D1, CACNB2, GJA5, KCNA5, KCNE1, KCNE2, KCNH2, KCNJ2, KCNQ1, NPPA, SCN1B, SCN2B, SCN3B, SCN4B, SCN5A |
| 6 | Long QT Syndrome | 15 | AKAP9, ANK2, CACNA1C, CALM1, CALM2, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNJ5, KCNQ1, SCN4B, SCN5A, SNTA1 |
| 7 | Arrhythmogenic Right Ventricular Dysplasia/ Cardiomyopathy (ARVD/C) | 13 | CTNNA3, DES, DSC2, DSG2, DSP, JUP, LMNA, PKP2, PLN, RYR2, TGFB3, TMEM43, TTN |
| 8 | Brugada Syndrome | 13 | CACNA1C, CACNA2D1, CACNB2, GPD1L, HCN4, KCND3, KCNE3, KCNJ8, SCN10A, SCN1B, SCN3B, SCN5A, TRPM4 |
| 9 | Catecholaminergic Polymorphic Ventricular Tachucardia (CPVT), Paroxysmal/ Idiopathic Ventricular Fibrillation/ Tachycardia | 10 | ANK2, CALM1, CALM2, CASQ2, DPP6, GNAI2, KCNJ2, RYR2, SCN5A, TRDN |
| 10 | Congenital Heart Defects | 44 | ASD, VSD, TOF, TGA, HLHS, AS, PS, konotrunkale Defekte, Ebstein-Anomalie und Heterotaxien  ACTC1, ACVR2B, CCDC11, CFC1, CHD7, CITED2, CRELD1, ELN, FLNA, FOXC1, FOXH1, GATA4, GATA5, GATA6, GDF1, GJA1, GJA5, IRX4, JAG1, LEFTY2, MED13L, MYH6, MYH7, NAA15, NKX2-5, NKX2-6, NODAL, NOTCH1, NOTCH2, NR2F2, PITX2, RBM10, SEMA3E, SMAD2, SMAD6, TAB2, TBX1, TBX20, TBX3, TBX5, TFAP2B, TLL1, ZFPM2, ZIC3  Genes for [Primary Ciliary Dyskinesia can be found in our Diagnostic Panel Ciliopathies (CIL01)](http://www.cegat.de/en/diagnostics/diagnostic-panels/ciliopathies/#toggle-id-2). |
| 11 | RASopathies | 23 | Noonan Syndrome, Noonan-like Syndrome, Costello Syndrome, Cardiofaciocutaneous Syndrome (CFC Syndrome), Legius Syndrome, LEOPARD Syndrome, Neurofibromatosis type 1, Megalencephaly-Capillary Malformation-Polymicrogyria Syndrome (MCAP), Capillary Malformation-Arteriovenous Malformation (CMAVM), Microcephaly-Capillary Malformation Syndrome (MICCAP), Megalencephaly-Polymicrogyria-Polydactyly-Hydrocephalus Syndrome (MPPH)  A2ML1, AKT3, BRAF, CBL, CCND2, HRAS, KRAS, MAP2K1, MAP2K2, NF1, NRAS, PIK3CA, PIK3R2, PTPN11, RAF1, RASA1, RASA2, RIT1, RRAS, SHOC2, SOS1, SPRED1, STAMBP |
| 12 | Aortic Aneurysm/ Loeys- Dietz Syndrome/ Arterial Tortuosity Syndrome | - | Is replaced by [CTD02: Connective Tissue Diseases (Ehlers-Danlos Syndrome, Marfan Syndrome, Loeys-Dietz Syndrome, Aortic Aneurysm and Differential Diagnoses)](http://www.cegat.de/en/diagnostics/diagnostic-panels/connective-tissue-diseases/#toggle-id-3) |
| 13 | Complete Panel- Cardiac Disease | 156 | A2ML1, ABCC9, ACTC1, ACTN2, ACVR2B, AKAP9, AKT3, ANK2, ANKRD1, BAG3, BRAF, CACNA1C, CACNA2D1, CACNB2, CALM1, CALM2, CALR3, CASQ2, CAV3, CBL, CCDC11, CCND2, CFC1, CHD7, CITED2, CRELD1, CRYAB, CSRP3, CTNNA3, DES, DMD, DPP6, DSC2, DSG2, DSP, DTNA, ELN, EMD, EYA4, FHL1, FKTN, FLNA, FOXC1, FOXH1, GATA4, GATA5, GATA6, GATAD1, GDF1, GJA1, GJA5, GLA, GNAI2, GPD1L, HCN4, HRAS, IRX4, JAG1, JPH2, JUP, KCNA5, KCND3, KCNE1, KCNE2, KCNE3, KCNH2, KCNJ2, KCNJ5, KCNJ8, KCNQ1, KRAS, LAMA4, LAMP2, LDB3, LEFTY2, LMNA, MAP2K1, MAP2K2, MED13L, MIB1, MYBPC3, MYH6, MYH7, MYL2, MYL3, MYLK2, MYOZ2, MYPN, NAA15, NEBL, NEXN, NF1, NKX2-5, NKX2-6, NODAL, NOTCH1, NOTCH2, NPPA, NR2F2, NRAS, PDLIM3, PIK3CA, PIK3R2, PITX2, PKP2, PLN, PRDM16, PRKAG2, PTPN11, RAF1, RASA1, RASA2, RBM10, RBM20, RIT1, RRAS, RYR2, SCN10A, SCN1B, SCN2B, SCN3B, SCN4B, SCN5A, SDHA, SEMA3E, SGCD, SHOC2, SMAD2, SMAD6, SNTA1, SOS1, SPRED1, STAMBP, TAB2, TAZ, TBX1, TBX20, TBX3, TBX5, TCAP, TFAP2B, TGFB3, TLL1, TMEM43, TMPO, TNNC1, TNNI3, TNNT2, TPM1, TRDN, TRPM4, TTN, TTR, VCL, ZFPM2, ZIC3 |