Kardiomyopathien			
Panel-ID			**Bearbeitungszeit**
ID007	**Hypertrophe Kardiomyopathie (HCM, CMH)**	**Multigen-Panel** (31 Gene) ACTC1, ACTN2, CALR3, CAV3, COX15, CSRP3, GAA, GLA, JPH2, LAMP2, LDB3, MYBPC3, MYH6, MYH7, MYL2, MYL3, MYLK2, MYOZ2, MYPN, NEXN, PLN, PRKAG2, SCO2, TCAP, TNNC1, TNNI3, TNNT2, TPM1, TTN, TTR, VCL **Basis-Panel** (17 Gene) ACTC1, ACTN2, CSRP3, JPH2, MYBPC3, MYH7, MYL2, MYL3, NEXN, PLN, PRKAG2, TCAP, TNNC1, TNNI3, TNNT2, TPM1, TTN (spez. Exons)	4 – 6 Wochen
ID008	**Dilatative Kardiomyopathie (DCM, CMD)**	**Multigen-Panel** (39 Gene) ABCC9, ACTC1, ACTN2, BAG3, CRYAB, CSRP3, DES, DMD, DSG2, DSP, EYA4, FKTN, GATAD1, JUP, LAMA4, LAMP2, LDB3, LMNA, MYBPC3, MYH6, MYH7, MYPN, NEXN, PLN, PRDM16, RAF1, RBM20, SCN5A, SDHA, SGCD, TAZ, TMPO, TNNC1, TNNT2, TNNI3, TPM1, TTN, TTR, VCL **Basis-Panel** (10 Gene) BAG3, LMNA, MYBPC3, MYH6, MYH7, PLN, RBM20, TNNT2, TNNI3, TTN (spez. Exons)	4 – 6 Wochen
ID011	**Linksventrikuläre Noncompaction-Kardiomyopathie (LVNC, NCCM)**	**Multigen-Panel** (11 Gene) ACTC1, ACTN2, DTNA, LDB3, MIB1, MYBPC3, MYH7, PRDM16, TAZ, TNNT2, TPM1 **Basis-Panel** (10 Gene) ACTC1, DTNA, LDB3, MIB1, MYBPC3, MYH7, PRDM16, TAZ, TNNT2, TPM1	3 – 5 Wochen
ID010	**Arrhythmogene rechtsventrikuläre Kardiomyopathie (ARVD, ARVC)**	**Multigen-Panel** (9 Gene) DES, DSC2, DSG2, DSP, JUP, PKP2, RYR2, TGFB3, TMEM43 **Basis-Panel** (8 Gene) DES, DSC2, DSG2, DSP, JUP, PKP2, TGFB3, TMEM43	3 – 5 Wochen
ID105	**Restriktive Kardiomyopathie (RCM)**	**Multigen-Panel** (10 Gene) ACTC1, BAG3, DES, MYH7, MYL2, MYL3, MYPN, TNNI3, TNNT2, TPM1	3 – 5 Wochen
ID027	**Kardiomyopathien, umfassende Diagnostik**	**Multigen-Panel** (96 Gene) ABCC9, ACTA1, ACTC1, ACTN2, ALMS1, ANKRD1, BAG3, BRAF, CALR3, CASQ2, CAV3, CBL, COX15, CRYAB, CSRP3, DES, DMD, DNAJC19, DOLK, DSC2, DSG2, DSP, DTNA, EMD, EYA4, FHL1, FHL2, FKRP, FKTN, FXN, GAA, GATAD1, GLA, HADHA, HFE, HRAS, ILK, JPH2, JUP, KLF10, KRAS, LAMA2, LAMA4, LAMP2, LDB3, LMNA, MAP2K1, MAP2K2, MIB1, MURC, MYBPC3, MYH6, MYH7, MYL2, MYL3, MYLK2, MYO6, MYOZ2, MYPN, NEXN, NPPA, NRAS, PDLIM3, PKP2, PLN, PRDM16, PRKAG2, PTPN11, RAF1, RBM20, RYR2, SCN2B, SCN5A, SCO2, SDHA, SGCB, SGCD, SGCG, SHOC2, SLC25A4, SOS1, TAZ, TBX20, TCAP, TGFB3, TMEM43, TMPO, TNNC1, TNNI3, TNNT2, TPM1, TRIM63, TRPM4, TTN, TXNRD2, VCL	4 – 6 Wochen

Panel-ID			Bearbeitungszeit
ID149	**Speichererkrankungen mit Herzbeteiligung**	**Multigen-Panel** (12 Gene) ATP7B, FTH1, GAA, GLA, HAMP, HFE, HJV, LAMP2, PRKAG2, SLC40A1, TFR2, TTR	3 – 5 Wochen
ID123	**Neuromuskuläre Erkrankungen mit Herzbeteiligung**	**Multigen-Panel** (14 Gene) CAV3, DES, DMD, EMD, FHL1, FKRP, FKTN, LAMA2, LMNA, SGCB, SGCD, SGCG, TCAP, TTN **Basis-Panel** (14 Gene) CAV3, DES, DMD, EMD, FHL1, FKRP, FKTN, LAMA2, LMNA, SGCB, SGCD, SGCG, TCAP, TTN (spez. Exons)	4 – 6 Wochen

Kongenitale Herzfehler			
Panel-ID			**Bearbeitungszeit**
ID017	**Angeborene nicht-syndromale Herzfehler**	**Multigen-Panel** (33 Gene) ACTC1, ACVR2B, CFAP53, CFC1, CITED2, CRELD1, ELN, GATA4, GATA5, GATA6, GDF1, GJA1, JAG1, MMP21, MED13L, MYH6, ISL1, NKX2-5, NKX2-6, NR2F2, NODAL, NOTCH1, PKD1L1, PRDM6, ROBO4, SMAD6, TAB2, TBX1, TBX20, TFAP2B, TLL1, ZFPM2, ZIC3 **Basis-Panel I (Atrium-/Ventrikelseptumdefekt)** (12 Gene) ACTC1, CITED2, CRELD1, GATA4, GATA5, GATA6, GJA1, MYH6, NR2F2, NKX2-5, TBX20, TLL1 **Basis-Panel II (Fallot-Tetralogie)** (11 Gene) GATA4, GATA5, GATA6, GDF1, ISL1, JAG1, NKX2-5, NR2F2, TAB2, TBX1, ZFPM2 **Basis-Panel III (Heterotaxie) (**9 Gene) ACVR2B, CFAP53, CFC1, CRELD1, GDF1, MMP21, NODAL, PKD1L1, ZIC3 **Basis-Panel IV (Konotrunkaler Herzfehler) (**10 Gene) CFC1, GATA5, GATA6, GDF1, MED13L, NKX2-5, NKX2-6, TBX1, ZFPM2, ZIC3 **Basis-Panel V (Aortenklappenerkrankung)** (7 Gene) ELN, GATA5, NOTCH1, NR2F2, ROBO4, SMAD6, TAB2 **Basis-Panel VI (Hypoplastisches Linksherzsyndrom)** (4 Gene) GDF1, GJA1, NKX2-5, NR2F2 **Basis-Panel VII (Multipler kongenitaler Herzfehler)** (5 Gene) GATA5, GDF1, NR2F2, TAB2, ZIC3	3 – 5 Wochen
ID143	**Atrium- und Ventrikelseptum-defekt (ASD, VSD, AVSD)**	**Multigen-Panel** (12 Gene) ACTC1, CITED2, CRELD1, GATA4, GATA5, GATA6, GJA1, MYH6, NKX2-5, NR2F2, TBX20, TLL1	3 – 5 Wochen

Panel-ID			Bearbeitungszeit
ID144	**Fallot-Tetralogie (TOF)**	**Multigen-Panel** (11 Gene) GATA4, GATA5, GATA6, GDF1, ISL1, JAG1, NKX2-5, NR2F2, TAB2, TBX1, ZFPM2	3 – 5 Wochen
ID145	**Viszerale Heterotaxie (HTX)**	**Multigen-Panel** (9 Gene) ACVR2B, CFAP53, CFC1, CRELD1, GDF1, MMP21, NODAL, PKD1L1, ZIC3	3 – 5 Wochen
ID160	**Konotrunkale Herzfehlbildung (CTHM)**	**Multigen-Panel** (10 Gene) CFC1, GATA6, GATA5, GDF1, MED13L, NKX2-5, NKX2-6, TBX1, ZFPM2, ZIC3	3 – 5 Wochen
ID015	**RASopathien**	**Multigen-Panel** (21 Gene) A2ML1, BRAF, CBL, HRAS, KRAS, LZTR1, MAP2K1, MAP2K2, MRAS, NF1, NRAS, PTPN11, RAF1, RASA2, RRAS, PPP1CB, RIT1, SHOC2, SOS1, SOS2, SPRED1 **Basis-Panel** (17 Gene) [EBM + 25 kb] BRAF, CBL, HRAS, KRAS, LZTR1, MAP2K1, MAP2K2, MRAS, NF1, NRAS, PTPN11, RAF1, RIT1, SHOC2, SOS1, SOS2, SPRED1	3 – 5 Wochen
ID252	**Angeborene syndromale Herzfehler**	**Multigen-Panel** (49 Gene) ADAMTS10, ADAMTS17, AFF4, ARHGAP31, BMPR2, CDK13, CHD4, CHD7, CREBBP, DLL4, DOCK6, DTNA, EHMT1, EOGT, EP300, EVC, EVC2, FBN1, FBN2, FLNA, FOXC1, GPC3, JAG1, KDM6A, KMT2D, LTBP2, MED12, MGP, MYH11, NIPBL, NOTCH1, NOTCH2, NSD1, PITX2, PLD1, PRKAR1A, PRKD1, RBM10, RBPJ, SALL1, SALL4, SEMA3E, TBX3, TBX5, TGFBR1, TGFBR2, TMEM260, WDPCP, ZEB2 **Basis-Panel I (CHARGE-Syndrom)** (2 Gene) CHD7, SEMA3E **Basis-Panel II (Weill-Marchesani-Syndrom)** (4 Gene) ADAMTS10, ADAMTS17, FBN1, LTBP2 **Basis-Panel III (Adams-Oliver-Syndrom)** (6 Gene) ARHGAP31, DLL4, DOCK6, EOGT, NOTCH1, RBPJ **Basis-Panel IV (Kabuki-Syndrom)** (2 Gene) KDM6A, KMT2D **Basis-Panel V (Alagille-Syndrom)** (2 Gene) JAG1, NOTCH2 **Basis-Panel VI (Marfan-Syndrom**) (3 Gene) [EBM] FBN1, TGFBR1, TGFBR2 **Basis-Panel VII (Rubinstein-Taybi-Syndrom)** (2 Gene) CREBBP, EP300	4 – 6 Wochen

Arrhythmien / Ionenkanalerkrankungen			
Panel-ID			**Bearbeitungszeit**
ID013	**Long-QT-Syndrom (LQT)**	**Multigen-Panel** (14 Gene) AKAP9, ANK2, CACNA1C, CALM1, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNJ5, KCNQ1, SCN4B, SCN5A, SNTA1 **Basis-Panel** (12 Gene) CACNA1C, CALM1, CAV3, KCNE1, KCNE2, KCNH2, KCNJ2, KCNJ5, KCNQ1, SCN4B, SCN5A, SNTA1	3 – 5 Wochen
ID233	**Short-QT-Syndrom (SQT)**	**Multigen-Panel** (6 Gene) CACNA1C, CACNA2D1, CACNB2, KCNH2, KCNJ2, KCNQ1	3 – 5 Wochen
ID014	**Brugada-Syndrom (BRGDA)**	**Multigen-Panel** (15 Gene) CACNA1C, CACNA2D1, CACNB2, GPD1L, HCN4, KCND3, KCNE3, KCNJ8, PKP2, RANGRF, SCN1B, SCN2B, SCN3B, SCN5A, TRPM4 **Basis-Panel** (12 Gene) CACNA1C, CACNB2, GPD1L, HCN4, KCND3, KCNE3, KCNJ8, RANGRF, SCN1B, SCN2B, SCN3B, SCN5A	3 – 5 Wochen
ID012	**Katecholaminerge polymorphe ventrikuläre Tachykardie (CPVT)**	**Multigen-Panel** (6 Gene) ANK2, CALM1, CASQ2, KCNJ2, RYR2, TRDN **Basis-Panel** (5 Gene) CALM1, CASQ2, KCNJ2, RYR2, TRDN	3 – 5 Wochen
ID016	**Familiäres Vorhofflimmern (ATFB)**	**Multigen-Panel** (14 Gene) ABCC9, GJA5, KCNA5, kCNE1, KCNE2, KCNH2, KCNJ2, KCNQ1, NPPA, SCN1B, SCN2B, SCN3B, SCN4B, SCN5A	3 – 5 Wochen
ID107	**Sick-Sinus-Syndrom (SSS)**	**Multigen-Panel** (3 Gene) HCN4, MYH6, SCN5A	3 – 5 Wochen
ID026	**Arrhythmien, umfassende Diagnostik**	**Multigen-Panel** (49 Gene) ABCC9, AKAP9, ANK2, CACNA1C, CACNA2D1, CACNB2, CALM1, CASQ2, CAV3, DES, DSC2, DSG2, DSP, EMD, GJA5, GPD1L, HCN4, JPH2, JUP, KCNA5, KCND3, KCNE1, KCNE2, KCNE3, KCNH2, KCNJ2, KCNJ5, KCNJ8, KCNQ1, LMNA, MYH6, NKX2-5, NPPA, PKP2, PRKAG2, RANGRF, RYR2, SCN1B, SCN2B, SCN3B, SCN4B, SCN5A, SNTA1, TBX5, TGFB3, TMEM43, TNNI3, TRPM4, TRDN	4 – 6 Wochen

Arterien-/Aortenerkrankungen			
Panel-ID			**Bearbeitungszeit**
ID020	**Thorakales Aortenaneurysma und Aortendissektion (AAT, TAAD)**	**Multigen-Panel** (9 Gene) [EBM] ACTA2, COL3A1, FBN1, MYH11, MYLK, SMAD3, TGFB2, TGFBR1, TGFBR2	3 – 5 Wochen
ID009	**Loeys-Dietz-Syndrom (LDS) und ähnliche Aortenerkrankungen**	**Multigen-Panel** (31 Gene) ACTA2, BGN, COL1A2, COL3A1, COL5A1, COL5A2, EFEMP2, ELN, FBLN5, FBN1, FBN2, FLNA, FOXE3, LOX, MAT2A, MFAP5, MYH11, MYLK, NOTCH1, PLOD1, PRKG1, ROBO4, SKI, SLC2A10, SMAD2, SMAD3, SMAD6, TGFB2, TGFB3, TGFBR1, TGFBR2 **Basis-Panel I** (21 Gene) [EBM + 25 kb] ACTA2, BGN, COL3A1, FBN1, FOXE3, LOX, MAT2A, MFAP5, MYH11, MYLK, NOTCH1, PRKG1, ROBO4, SLC2A10, SMAD2, SMAD3, SMAD6, TGFB2, TGFB3, TGFBR1, TGFBR* **Basis-Panel II (Thorakales Aortenaneurysma/-dissektion)** (9 Gene) [EBM] ACTA2, COL3A1, FBN1, MYH11, MYLK, SMAD3, TGFB2, TGFBR1, TGFBR2 **Basis-Panel III (Thorakales Aortenaneurysma, nicht-syndromal)** (10 Gene) ACTA2, FOXE3, LOX, MAT2A, MFAP5, MYH11, MYLK, PRKG1, TGFBR1, TGFBR2 **Basis-Panel IV (Loeys-Dietz-Syndrom)** (8 Gene) BGN, SLC2A10, SMAD2, SMAD3, TGFB2, TGFB3, TGFBR1, TGFBR2 **Basis-Panel V (Aortenklappenerkrankung)** (3 Gene) NOTCH1, ROBO4, SMAD6	4 – 6 Wochen
ID234	**Hämorrhagischer und Ischämischer Schlaganfall**	**Multigen-Panel** (39 Gene) ACE, ACTA2, ADA2, ALOX5AP, APOE, APP, CBS, CCM2, COL3A1, COL4A1, COL4A2, CST3, F2, F5, FBN1, FLNA, GUCYA1, GLA, HTRA1, ITM2B, JAG1, KRIT1, MTHFR, MYH11, MYLK, NOS3, NOTCH3, OTC, PDCD10, POLG, PRKCH, RNF213, SLC2A10, SMAD3, TGFB2, TGFBR1, TGFBR2, TREX1, TTR **Basis-Panel I** (17 Gene) ACTA2, APP, CBS, COL3A1, COL4A1, COL4A2, FBN1, GLA, HTRA1, MYH11, MYLK, NOTCH3, SMAD3, TGFB2, TGFBR1, TGFBR2, TREX1 **Basis-Panel II (Intrazerebrale Hämorrhagie)** (5 Gene) ACE, APP, CST3, COL4A1, COL4A2 **Basis-Panel III (Moyamoya-Erkrankung)** (4 Gene) ACTA2, JAG1, GUCY1A1, RNF213 **Basis-Panel IV (Aortenaneurysma/-dissektion)** (9 Gene) [EBM] ACTA2, COL3A1, FBN1, MYH11, MYLK, SMAD3, TGFB2, TGFBR1, TGFBR2 **Basis-Panel V (CADASIL, CARASIL)** (2 Gene) HTRA1, NOTCH3	4 – 6 Wochen

Panel-ID			Bearbeitungszeit
ID109	**Cutis laxa (ADCL, ARCL)**	**Multigen-Panel** (10 Gene) ALDH18A1, ATP6V0A2, ATP6V1A, ATP6V1E1, ATP7A, EFEMP2, ELN, FBLN5, LTBP4, PYCR1	3 – 5 Wochen
ID039	**Ehlers-Danlos-Syndrom (EDS)**	**Multigen-Panel** (20 Gene) ADAMTS2, AEBP1, B3GALT6, B4GALT7, C1R, C1S, CHST14, COL1A1, COL1A2, COL3A1, COL5A1, COL5A2, COL12A1, DSE, FKBP14, PLOD1, PRDM5, SLC39A13, TNXB, ZNF469 **Basis-Panel I (EDS, dominant)** (7 Gene) [EBM + 25 kb] C1R, C1S, COL1A1, COL1A2, COL3A1, COL5A1, COL5A2 **Basis-Panel II (EDS, rezessiv)** (11 Gene) ADAMTS2, AEBP1, B3GALT6, B4GALT7, CHST14, COL1A2, DSE, FKBP14, PLOD1, PRDM5, SLC39A13	3 – 5 Wochen
ID022	**Marfan-Syndrom (MFS)**	**Multigen-Panel** (3 Gene) [EBM] FBN1, TGFBR2, TGFBR1	3 – 5 Wochen
ID194	**Marfan-Syndrom (MFS) und ähnliche Krankheitsbilder**	**Multigen-Panel** (42 Gene) ABCD4, ACTA2, ADAMTS10, ADAMTS17, ADAMTSL4, BGN, CBS, COL1A2, COL2A1, COL3A1, COL5A1, COL5A2, COL9A1, COL9A2, COL11A1, FBN1, FBN2, FKBP14, FLNA, LIG4, LMBRD1, LOX, LTBP2, PLOD, MED12, MMACHC, MMADHC, MTHFR, MTR, MTRR, MYH11, MYLK, PRDM5, SKI, SLC2A10, SMAD2, SMAD3, TGFB2, TGFB3, TGFBR1, TGFBR2, ZNF469 **Basis-Panel I** (18 Gene) [EBM + 25 kb] ACTA2, BGN, CBS, COL3A1, FBN1, FBN2, LOX, LTBP2, MYLK, MYH11, SKI, SLC2A10, SMAD2, SMAD3, TGFB2, TGFB3, TGFBR1, TGFBR2 **Basis-Panel II (Marfan-Syndrom)** (3 Gene) [EBM] FBN1, TGFBR2, TGFBR1 **Basis-Panel III (Aortopathie)** (9 Gene) [EBM] ACTA2, COL3A1, FBN1, MYH11, MYLK, SMAD3, TGFB2, TGFBR1, TGFBR2 **Basis-Panel IV (Homocystinurie)** (8 Gene) ABCD4, CBS, LMBRD1, MMACHC, MMADHC, MTHFR, MTR, MTRR **Basis-Panel V (Weill-Marchesani-Syndrom)** (4 Gene) ADAMTS10, ADAMTS17, FBN1, LTBP2 **Basis-Panel VI (Stickler-Syndrom)** (4 Gene) COL2A1, COL9A1, COL9A2, COL11A1 **Basis-Panel VII (Ehlers-Danlos-Syndrom)** (6 Gene) [EBM + 25 kb] COL1A2, COL3A1, COL5A1, COL5A2, FKBP14, PRDM5 **Basis-Panel VIII (Brittle-Cornea-Syndrom)** (2 Gene) PRDM5, ZNF469	4 – 6 Wochen

ID137	**Bindegewebserkrankungen mit Aortenbeteiligung**	**Multigen-Panel** (60 Gene) ABCC6, ACTA2, ADAMTS2, AEBP1, ALDH18A1, ATP6V0A2, ATP6V1, ATP6V1E1, ATP7A, B3GALT6, B4GALT7, BGN, C1R, C1S, CBS, CHST14, COL1A1, COL1A2, COL3A1, COL4A1, COL5A1, COL5A2, COL12A1, DSE, EFEMP2, ELN, FBLN5, FBN1, FBN2, FKBP14, FLNA, FOXE3, ITPKC, LOX, LTBP4, MAT2A, MFAP5, MYH11, MYLK, NOTCH1, PLOD1, PRDM5, PRKG1, PLOD3, PYCR1, RIN2, ROBO4, SKI, SLC2A10, SLC39A13, SMAD2, SMAD3, SMAD4, SMAD6, TGFB2, TGFB3, TGFBR1, TGFBR2, TNXB, ZNF469 **Basis-Panel I (Thorakales Aortenaneurysma/-dissektion)** (9 Gene) [EBM] ACTA2, COL3A1, FBN1, MYH11, MYLK, SMAD3, TGFB2, TGFBR1, TGFBR2 **Basis-Panel II (Marfan-Syndrom)** (3 Gene) [EBM] FBN1, TGFBR2, TGFBR1 **Basis-Panel III (Ehlers-Danlos-Syndrom, dominant)** (7 Gene) [EBM + 25 kb] C1R, C1S, COL1A1, COL1A2, COL3A1, COL5A1, COL5A2 **Basis-Panel IV (Ehlers-Danlos-Syndrom, rezessiv)** (11 Gene) ADAMTS2, AEBP1, B3GALT6, B4GALT7, CHST14, COL1A2, DSE, FKBP14, PLOD1, PRDM5, SLC39A13 **Basis-Panel V (Cutis laxa**) (8 Gene) ALDH18A1, ATP6V0A2, ATP7A, EFEMP2, ELN, FBLN5, LTBP4, PYCR1 **Basis-Panel VI (Loeys-Dietz-Syndrom)** (8 Gene) BGN, SLC2A10, SMAD2, SMAD3, TGFB2, TGFB3, TGFBR1, TGFBR2 **Basis-Panel VII (Aortenaneurysma, nicht-syndromal)** (10 Gene) ACTA2, FOXE3, LOX, MAT2A, MFAP5, MYH11, MYLK, PRKG1, TGFBR1, TGFBR2 **Basis-Panel VIII (Aortenklappenerkrankung)** (3 Gene) NOTCH1, ROBO4, SMAD6	4 – 6 Wochen

Kosten
Die Kosten werden bei bestehender medizinischer Indikation über einen Überweisungsschein Typ 10 (EBM) abgerechnet. Humangenetische Leistungen sind nicht budgetrelevant.
Es können bis zu 25 Kilobasen (kb) kodierende Sequenzen im Rahmen einer Stufendiagnostik abgerechnet werden (siehe ggf. Basispanels). Mutationssuchen in mehr als 25 kb unterliegen aktuell noch einer Genehmigungspflicht durch die gesetzliche Krankenversicherung.
Für privatversicherte Patienten sowie private Kostenträger (Krankenhäuser etc.) können auf Wunsch entsprechende Kostenvoranschläge erstellt werden.