

CARDIO pro

For the characterization of familial cardiovascular diseases

CARDIO pro

CARDIO pro is a kit for the genetic characterization of familial cardiovascular diseases using Next Generation Sequencing technologies.

Following the latest international recommendations and guidelines, the kit allows the analysis of more than 200 genes known to be related to hereditary cardiomyopathies, rare heart diseases and hereditary aneurysmal diseases.

TECHNOLOGY

The CARDIO pro kit is part of a DNA-to-variant solution that offers streamlined content, easy-to-perform library preparation, push-button sequencing systems, and simplified data analysis.

WORKFLOW

Library preparation follows a straightforward, capture-based protocol that can be completed in as little as 36 hours, with < 3 hours hands-on time. Resulting libraries can be normalized, pooled, and then loaded on to a flow cell for sequencing. Prepared libraries are sequenced on any compatible Illumina sequencers.

VALIDATION

To demonstrate assay capabilities, clinical samples were run in a clinical setting. DNA quality and quantity of the libraries prepared were verified using Qubit and Agilent Bioanalyzer.

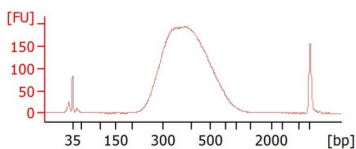


Figure 1. CARDIO pro library Bioanalyzer profile.

SAMPLE PER RUN

Instrument	Samples per run*
	Germline
MiSeq Kit v2 (300-cycles)/(500-cycles)	16
MiSeq Kit v3 (600-cycles)	24
MiniSeq Mid Output Kit (300-cycles)	8
MiniSeq High Output Kit (300-cycles)	24
NextSeq 550 Mid-Output Kit	144
NextSeq 550High-Output Kit	464

*the estimated maximum number of samples per cartridge assumes a reading depth of 300x for the germline. The optimal number of samples can be empirically estimated on the local setup. The volume present in the kit is calculated to allow the subdivision into multiples of 8 analysis sessions. Dividing the kit in different ways decrease the total number of tests that can be performed.

ORDERING INFORMATION

Product**	REF
CARDIO pro	C3140-16X(16 test)
CARDIO pro	C3140-96X (96 test)
UDI***	
UDI Primers Set A	7001 (96 test)
UDI Primers Set B	7002 (96 test)
UDI Primers Set C	7003 (96 test)
UDI Primers Set D	7004 (96 test)
UDI Primers Set 16	7005 (16 test)

**the kit is also available in its version only for research use (RUO).
***UDI are always included in CEIVD kit.

Table 1: List of genes in CARDIO pro

ABCC9	BAG3	COX15	EMD	GPD1L	KCNJ2	LTBP2	MYH6	OBSCN	RYR1	SMAD2	TNNC1
ABCG5	BGN	CREB3L3	EYA4	GPIHBP1	KCNJ5	MAP2K1	MYH7	PCSK9	RYR2	SMAD3	TNNC2
ABCG8	BRAF	CRELD1	FBN1	HADHA	KCNJ8	MAP2K2	MYL2	PDLIM3	SALL4	SMAD4	TNNI3
ACTA1	CACNA1C	CRYAB	FBN2	HCN4	KCNQ1	MAT2A	MYL3	PKP2	SCN1B	SNTA1	TNNI3K
ACTA2	CACNA2D1	CSRP3	FHL1	HFE	KLF10	MFAP5	MYLK	PLEKHM2	SCN2B	SOS1	TNNI2
ACTC1	CACNB2	CTF1	FHL2	HRAS	KRAS	MIB1	MYLK2	PLN	SCN3B	SREBF2	TPM1
ACTN2	CALM1	DES	FKRP	HSPB8	LAMA2	MT-TS2	MYO6	POLG1	SCN4B	TAZ	TRDN
AKAP9	CALR3	DMD	FKTN	ILK	LAMA4	MT-ND1	MYOM1	PRDM16	SCN5A	TBX20	TRIM63
ALMS1	CASQ2	DNAJC19	FLNA	JAG1	LAMP2	MT-ND5	MYOZ2	PRKAG2	SCO2	TBX3	TRPM4
ALPK3	CAV3	DOLK	FLNC	JPH2	LDB3	MT-ND6	MYPN	PRKAR1A	SDHA	TBX5	TTN
ANK2	CBL	DPP6	FOXO3	JUP	LDLR	MT-TH	NEBL	PRKG1	SEPN1	TCAP	TTR
ANKRD1	CBS	DSC2	FXN	KCNA5	LDLRAP1	MT-TK	NEXN	PSEN1	SGCB	TGFB2	TXNRD2
APOA4	CETP	DSG2	GAA	KCND3	LMF1	MT-TS1	NKX2-5	PSEN2	SGCD	TGFB3	VCL
APOA5	COL3A1	DSP	GATAD1	KCNE1	LMNA	MT-TQ	NODAL	PTPN11	SGCG	TGFB1	ZBTB17
APOB	COL5A1	DTNA	GCKR	KCNE2	LOX	MURC	NOTCH1	RAF1	SHOC2	TGFB2	ZHX3
APOC2	COL5A2	EFEMP2	GJA5	KCNE3	LPL	MYBPC3	NPPA	RANGRF	SLC25A4	TMEM43	ZIC3
APOE	COL9A1	ELN	GLA	KCNH2	LRRC10	MYH11	NRAS	RBM20	SLC2A10	TMPO	