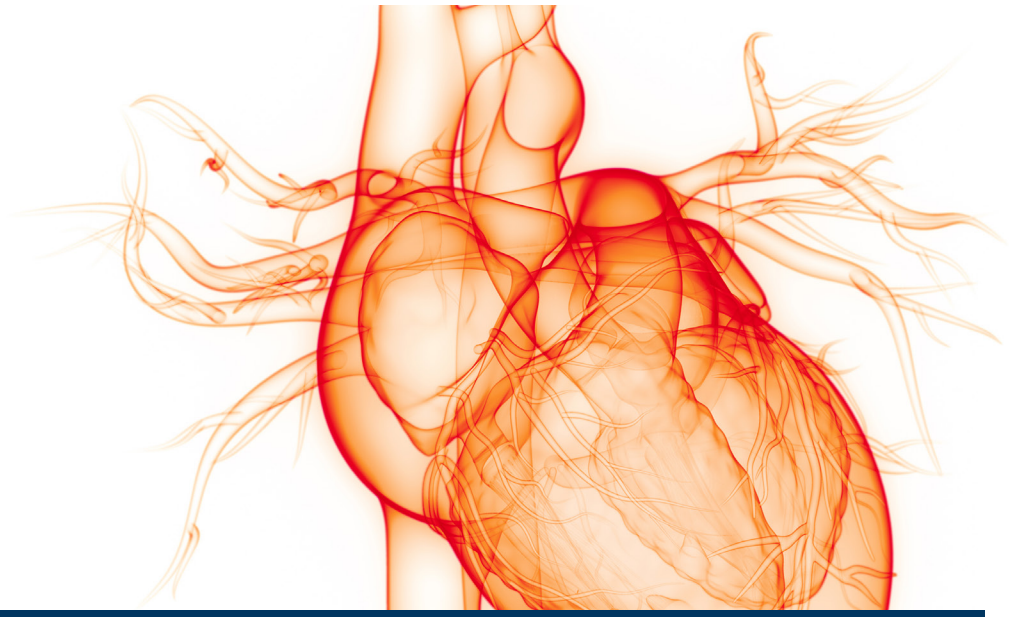


CVD StripAssays®

Identify key genetic variations to estimate cardiovascular disease risk

Cardiovascular diseases (CVD) are common, but in many cases can be avoided.

Atherosclerosis and venous thrombosis are the two major manifestations of CVD. Both are caused by complex interactions of environmental and genetic factors.

Unhealthy lifestyle combined with certain genetic variants can contribute to atherosclerosis. Relevant genes include those involved in endothelial dysfunction, hyper-lipidemia, hypertension, and inflammation.

A combination of adverse influences (i.e. female hormone intake, immobilization, surgery or cancer) and variations in genes responsible for the coagulation system can also lead to thrombosis.

Testing for genetic variations and adequate prophylaxis contributes to lower CVD risk.

ViennaLab CVD StripAssays®

- Simple protocol for complex diagnostic questions
- Manual or automated processing
- Conventional laboratory equipment
- Ready-to-use reagents
- CE/IVD-labeled kits

ViennaLab®

CVD StripAssays® detect genetic variants associated with cardiovascular diseases

Factor V (FV):

FV Leiden (1691G>A; R506Q):

Represents one of the most important genetic risk factors for inherited thrombophilia; leads to activated protein C resistance. This variant occurs in 20-50% of patients with VTE.

FV R2 haplotype (H1299R):

Mild risk factor for thrombosis; increases CVD risk for carriers of FV Leiden.

Prothrombin (PTH; Factor II) 20210G>A:

Carriers of this variant have about 3-fold elevated risk for cerebral and deep-vein thrombosis. Risk significantly increases in combination with FV Leiden. The A allele is associated with increased prothrombin levels.

5,10-Methylenetetrahydrofolate Reductase (MTHFR):

MTHFR 677C>T:

Homozygosity predisposes to arterial and venous thrombosis in the presence of additional risk factors; the thermolabile variant (T allele) is associated with reduced enzyme activity and elevated plasma homocysteine levels in conjunction with folate deficiency.

MTHFR 1298A>C:

Compound heterozygosity for the 677C>T and 1298A>C variants is associated with reduced activity of the MTHFR enzyme.

Factor XIII (FXIII) V34L:

The L variant provides carriers with a protective effect against VTE.

Plasminogen Activator Inhibitor 1 (PAI-1, Serpin E1) 4G/5G:

The 4G allele is associated with higher PAI-1 transcription rates. It is considered to be a risk factor for VTE, MI and early-pregnancy loss.

Endothelial Protein C Receptor (EPCR):

EPCR 4600A>G (A3 haplotype):

Carriers of A3 are predisposed to VTE and fetal loss due to higher soluble EPCR plasma levels.

EPCR 4678G>C (A1 haplotype):

Homozygous A1 exerts a protective effect in carriers of FV Leiden.

Apolipoprotein B (Apo B) R3500Q:

Apo B-R3500Q is a dominant but rare mutation; associated with severe hypercholesterolemia and elevated risk for atherosclerosis.

Apolipoprotein E (Apo E) E2/E3/E4:

The E4 allele is associated with increased risk of early-onset MI, especially in smokers. Apo E is a key factor in determining blood lipid levels, with the E2 allele being associated with the lowest LDL and total cholesterol, and the E4 allele with the highest.

Beta-Fibrinogen (FGB) -455G>A:

Increases the risk for premature MI and ischemic stroke as it is associated with elevated levels of beta-fibrinogen in plasma.

Human Platelet Antigen 1 (HPA1a/b; Gp IIIa; integrin beta 3 L33P):

HPA1b is a risk factor for early-onset MI and stroke, particularly in smokers.

Angiotensin-Converting Enzyme (ACE) 287 bp insertion/deletion (I/D):

Represents a risk factor for MI in older patients and in smokers; the D allele is associated with elevated ACE activity and plasma levels.

Endothelial Nitric Oxide Synthase (eNOS; NOS3):

eNOS -786T>C:

The C allele causes a higher susceptibility to coronary heart disease.

eNOS 894G>T (E298D):

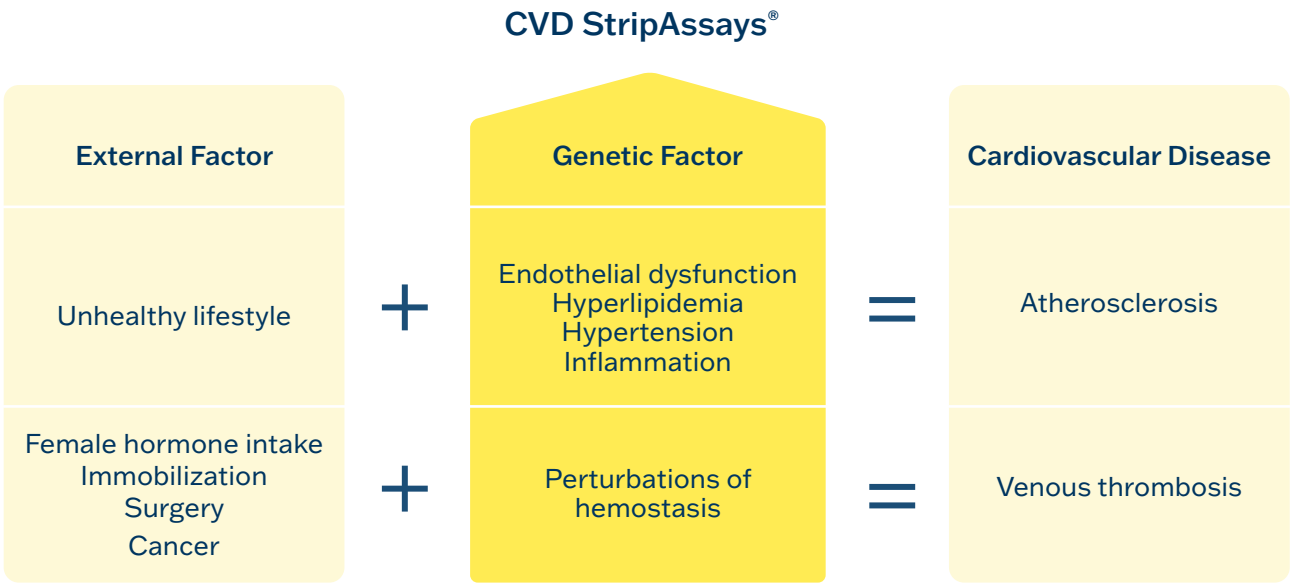
The T allele confers an increased risk for premature MI.

Lymphotoxin Alpha (LTA) 804C>A (T26N):

This variant is in almost complete linkage with LTA 252A>G; both variants are strongly proinflamatory and are associated with coronary artery disease.

MI: Myocardial Infarction; VTE: Venous Thromboembolism

CVD StripAssays® identify key genetic variations relevant to atherosclerosis and venous thrombosis.



ViennaLab offers flexible test options with five different CVD StripAssays®. A single teststrip can detect several genetic variants.

Gene	Genetic Variant	FV-PTH StripAssay® REF 4-290	FV-PTH-MTHFR StripAssay® REF 4-260	CVD StripAssay® T REF 4-360	CVD StripAssay® A REF 4-370	Apo E StripAssay® REF 4-280
FV	1691G>A (Leiden)	x	x	x		
	H1299R (R2)			x		
PTH	20210G>A	x	x	x		
MTHFR	677C>T		x	x		
	1298A>C			x		
FXIII	V34L			x		
PAI-1	4G / 5G			x		
EPCR	4600A>G (A3)			x		
	4678G>C (A1)			x		
ApoB	R3500Q				x	
ApoE	E2 / E3 / E4				x	x
FGB	-455G>A				x	
HPA1	a / b				x	
ACE	I / D				x	
eNOS	-786T>C				x	
	894G>T				x	
LTA	804C>A				x	

CVD StripAssays® At-a-Glance

Comprehensive Detection: Identify multiple gene variants linked to cardiovascular disease in a single teststrip.
Advanced Probe Technology: Integrates variant and control probes in a parallel array of allele-specific oligonucleotides.
Accurate Methodology: Utilizes reverse-hybridization of biotinylated PCR products for accurate results.
Efficient Workflow: Operates with immobilized oligonucleotides on a user-friendly teststrip.
Easy-to-Read Results: Delivers clear, enzymatic color reactions that are easily visible to the naked eye.

The three steps of StripAssays®

Step	Requirement
1. Amplification: Multiplex PCR. Simultaneous biotin-labeling	Thermocycler
2. Hybridization: Directly on the StripAssay® teststrips	Incubator
3. Identification: Labeled products detected by streptavidin-alkaline phosphatase	Naked eye or scanner + software

Order Information:

FV-PTH-MTHFR StripAssay®	20 tests/kit	[REF 4-260]	CE/IVD
Apo E StripAssay®	20 tests/kit	[REF 4-280]	CE/IVD
FV-PTH StripAssay®	20 tests/kit	[REF 4-290]	CE/IVD
CVD StripAssay® T	20 tests/kit	[REF 4-360]	CE/IVD
CVD StripAssay® A	20 tests/kit	[REF 4-370]	CE/IVD

ViennaLab offers StripAssays® for a wide range of diagnostic applications.

For more information visit www.viennalab.com.

Scan QR code for Product Catalog

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