

Veritas was founded in 2018 by Dr. Luis Izquierdo, Dr. Vincenzo Cirigliano and Javier de Echevarría, who accumulate extensive experience in the field of genetics, diagnostics and biotechnology. Initially linked to Veritas Genetics, a company founded in 2014 by Prof. George Church, one of the pioneers in preventive medicine, Veritas was born with the aim of making genome sequencing and its clinical interpretation available to all citizens as a tool to prevent diseases and improve health and quality of life.

Since its inception, Veritas has led the activity and development in the markets in which it operates, with the goal of turning genomics into a daily instrument at the service of people's well-being.

In March 2022 Veritas announces that it will become part of LetsGetChecked, a global healthcare solutions company based in Dublin and New York that provides the tools to manage health from home, through direct access to diagnostic testing and virtual healthcare.



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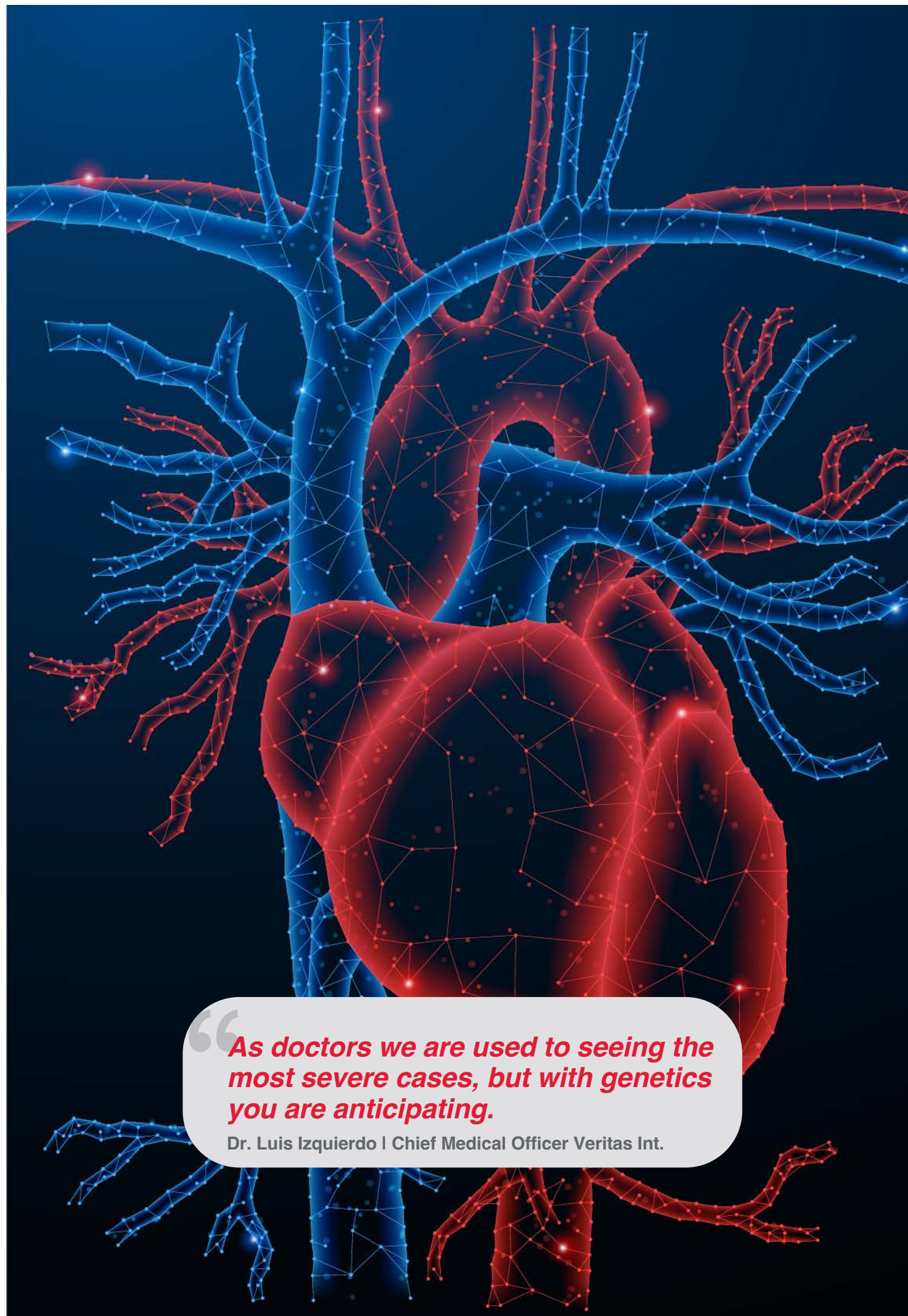
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my Cardio

is a genomic tool at the
service of precision
medicine and genetic
counseling





“As doctors we are used to seeing the most severe cases, but with genetics you are anticipating.”
Dr. Luis Izquierdo | Chief Medical Officer Veritas Int.

my Cardio

“**Human and technological commitment for diagnosis and counseling.**”

What is myCardio?

It is a service for the diagnosis of hereditary cardiovascular disease that integrates:

- » Veritas whole exome sequencing, with an optimized design to achieve a more homogeneous sequencing depth of the exome.
- » The analysis, under the Double-check methodology, of 100 genes selected by an expert team in the classification of variants in the field of heart disease.^{1,2}
- » Pre-test and post-test counseling to the specialist provided by medical geneticists.
- » The storage of sequencing data with a bioinformatic tool that allows subsequent access and re-analysis of the information, if necessary.

The ESC, AHA and CCS^{3,4,5,6,7} recommend that patients with cardiomyopathy and channelopathy receive genetic counseling.

Scientific publications show that genetic studies in the field of familial heart disease are cost-effective.^{8,9}

The test includes all the genes recommended by the American Heart Association (Scientific Statement 2020).¹⁰

Types of sample

The following sample types are accepted:

- » Saliva in specific kit provided by Veritas
- » Whole blood in EDTA
- » DNA extracted according to Veritas specifications

Counseling to the specialist

Veritas provides a differential service by providing counseling to the specialist for the interpretation of the results of the patient, when needed.

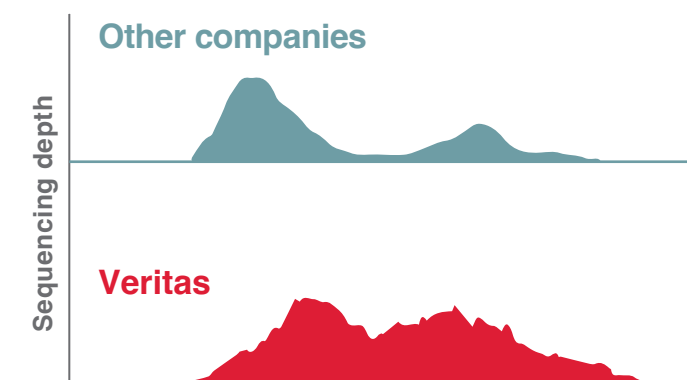
Additional services

Once myCardio test has been performed, the genetic analysis can be expanded to include:

- » Other genes of interest based on the specialist criteria.
- » Exome Diagnostic Service.
- » Data reanalysis service for the patient to benefit from advances in scientific knowledge.¹¹

Veritas whole exome technical information

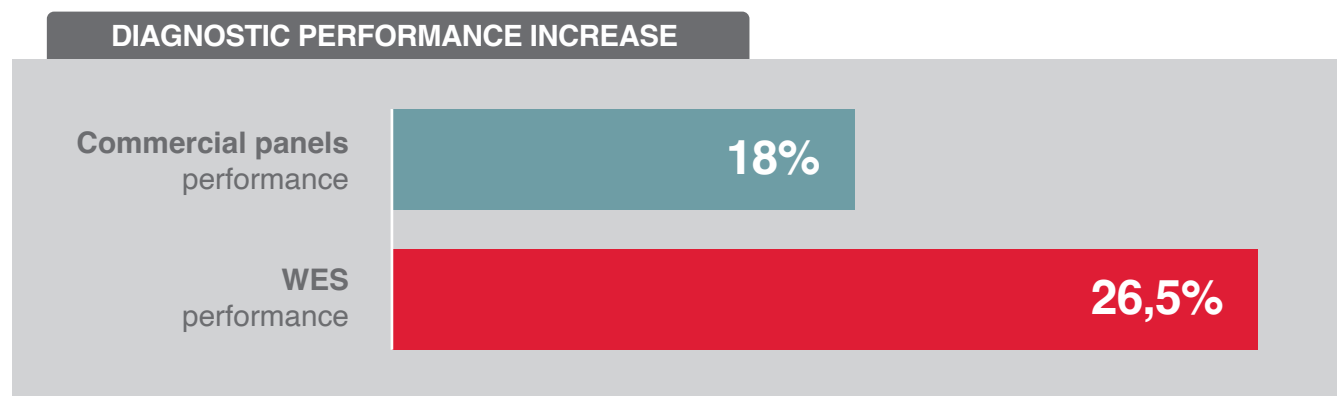
- » Whole exome sequencing (WES) with 100x average coverage, sequencing more than 99% of the genes of interest at $\geq 20x$.
- » More than 19,000 genes covered.
- » The classification of the variants is performed according to the American College of Medical Genetics and Genomics (ACMG) guidelines.
- » Veritas has a team of expert curators who perform the interpretation of the variants based on the most up-to-date scientific knowledge, with a specialized software developed for a detailed variant classification.



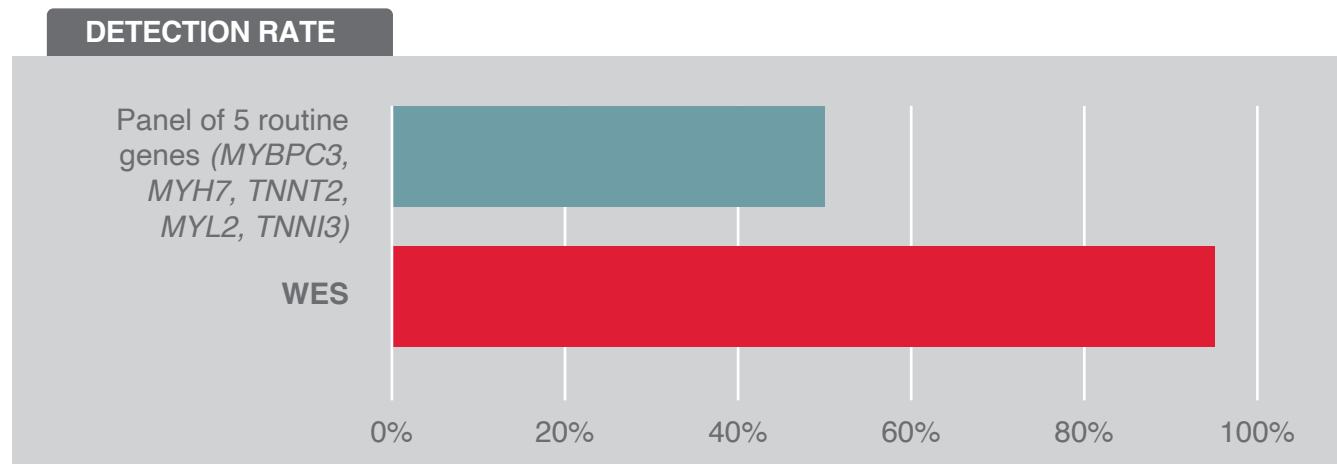
Example of the different coverage of a specific region in the exome with Veritas WES versus other companies.

Whole exome sequencing (WES) is a suitable tool to address the genetic heterogeneity present in hereditary cardiovascular disease.

- Recent studies show a very significant improvement in diagnostic performance using exome sequencing compared to the use of panels.^{12,13}
- A high number of cases present several mutations simultaneously.¹³
- The advantages of the exome are more prominent in those cases in which there is no high clinical suspicion as well as those in which the patient has recovered after an episode of sudden death.¹²



Circulation: Cardiovascular Genetics - AHA Journals
A study carried out by the Yale School of Medicine, on 200 cases of consecutive entry, in the framework of hereditary-based cardiovascular disease (CVD), a diagnostic increase from 18% to 26.5% was observed with the use of the exome $p = 0.04$ ¹²



Archives of Cardiovascular Diseases Supplements
Multicenter study on 200 cases of hypertrophic cardiomyopathy. The diagnostic yield appreciated is 95% compared to the 50% obtained with a reduced panel of 5 genes¹³ (60% with the usual genes in routine practice in Spain)^{4,14}



Genetic diagnosis has markedly reduced death from hereditary heart disease.

LIST OF FAMILY HEART DISEASES AND ASSOCIATED GENES (GROUPED BY CONDITION)

Primary cardiomyopathies	Hypertrophic cardiomyopathy	ACTC1, ACTN2, COX15, CSRP3, FHL1, FLNC, FXN, JPH2, LAMP2, LDB3, MYBPC3, MYH7, MYL2, MYL3, NEXN, NF1, PLN, PRKAG2, SLC25A4, TCAP, TNNC1, TNNT3, TNNT2, TPM1, TTN, VCL
	Dilated cardiomyopathy	ABCC9, ACTC1, ACTN2, BAG3, CRYAB, CSRP3, DES, DSG2, FKTN (FCMD), LDB3, LMNA, MYBPC3, MYH7, NEXN, NF1, PLN, RBM20, SCN5A, TAZ, TCAP, TMEM43, TNNC1, TNNT3, TNNT2, TPM1, TTN, VCL
	Left ventricular noncompaction	ACTC1, CSRP3, LDB3, LMNA, MYBPC3, MYH7, SCN5A, TAZ, TNNT2, TPM1, TTN
	Arrhythmogenic right ventricular cardiomyopathy	DES, DSC2, DSG2, DSP, JUP, LMNA, PKP2, PLN, RYR2, TGFB3, TMEM43, TTN
	Familial restrictive cardiomyopathy	ACTC1, BAG3, DES, FLNC, MYH7, MYL2, MYL3, TNNT3, TNNT2, TPM1, TTN
Metabolic cardiomyopathies	Fabry disease	GLA
	Pompe disease	GAA
	Danon disease	LAMP2
	Barth syndrome	TAZ
	Transthyretin-related familial amyloidotic cardiomyopathy	TTR
Channelopathies - Arrhythmias	Short QT syndrome	KCNH2, KCNJ2, KCNQ1
	Long QT & Romano-Ward syndrome	CALM1, CALM2, CAV3, KCNE1, KCNE2, KCNH2, KCNQ1, SCN5A
	Jervel and Lange-Nielsen syndrome	KCNE1, KCNQ1
	Brugada syndrome	CACNA1C, SCN5A
	Catecholaminergic polymorphic ventricular tachycardia	CALM1, CALM3, CASQ2, RYR2, TRDN
	KATP channelopathies	ABCC9
	Familial atrial fibrillation	ABCC9, KCNE2, KCNH2, KCNJ2, KCNQ1, LMNA, PRKAG2, RYR2, SCN5A, TNNT3, TNNT2
	Wolf-Parkinson-White	PRKAG2
	Familial progressive cardiac conduction defect	SCN5A
Syndromes with vascular involvement	Marfan syndrome	FBN1
	Loeys-Dietz syndrome	SMAD3, TGFB2, TGFB3, TGFB1, TGFB2
	Congenital contractural arachnodactyly (Beals syndrome)	FBN2
	Familial thoracic aortic aneurysm	ACTA2, ELN, FBN1, FLNA, LOX, MYH11, MYLK, NOTCH1, PRKG1, SMAD3, SKI, SLC2A10, SMAD4, TGFB1, TGFB2
	Ehlers-Danlos syndrome type IV (vascular type)	COL3A1
RASopathies	Noonan syndrome	BRAF, KRAS, MAP2K1, NRAS, PTPN11, RAF1, RIT1, SOS1, SOS2
	LEOPARD syndrome	BRAF, MAP2K1, PTPN11, RAF1
	Cardiofaciocutaneous syndrome	BRAF, KRAS, MAP2K1, MAP2K2
	Costello syndrome	HRAS
	Noonan-like syndrome with loose anagen hair (OMIM # 607721 # 617506)	PPP1CB, SHOC2
	Noonan-like syndrome with or without juvenile myelomonocytic leukemia	CBL
Other syndromes linked to heart disease	Friedreich ataxia with associated cardiomyopathy	FXN
	Andersen-Tawil syndrome	KCNJ2
	Cantu syndrome	ABCC9
	Fatal infantile cardioencephalomyopathy with COX deficiency	COX15
	Charcot-Marie-Tooth	BAG3, LMNA
	Cutis Laxa	EFEMP2
	Limb-Girdle muscular dystrophy	CAV3, FKTN (FCMD), LMNA, TCAP, TTN
	Distal muscular dystrophy	MYH7
	Emery-Dreifuss muscular dystrophy	EMD, FHL1, LMNA, TMEM43
	Fukuyama muscular dystrophy	FKTN (FCMD)
	Muscular dystrophy linked to LMNA	LMNA
	Leigh syndrome	COX15
	Early onset myopathy with lethal cardiomyopathy (OMIM # 611705)	TTN
	Neurofibromatosis	NF1
	Timothy syndrome	CACNA1C
Walker-Walburg syndrome	FKTN (FCMD)	
Other risk factors (Ischemic Heart Disease)	Familial hypercholesterolemia	ABCG5, ABCG8, APOE, APOB, LDLR, LDLRAP1 (ARH), LIPA, PCSK9

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