

Patient Information	Specimen Information	Client Information
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COMMENTS: FASTING: YES

Test Name	In Range	Out Of Range	Reference Range	Lab
HOMOCYSTEINE	9.3		<11.4 umol/L	IG
Homocysteine is increased by functional deficiency of folate or vitamin B12. Testing for methylmalonic acid differentiates between these deficiencies. Other causes of increased homocysteine include renal failure, folate antagonists such as methotrexate and phenytoin, and exposure to nitrous oxide.				
Selhub J, et al., Ann Intern Med. 1999;131(5):331-9.				
COMPREHENSIVE METABOLIC PANEL				IG
GLUCOSE	80		65-99 mg/dL	
Fasting reference interval				
UREA NITROGEN (BUN)	13		7-25 mg/dL	
CREATININE		1.39 H	0.60-1.26 mg/dL	
EGFR	67		> OR = 60 mL/min/1.73m2	
BUN/CREATININE RATIO	9		6-22 (calc)	
SODIUM	142		135-146 mmol/L	
POTASSIUM	4.0		3.5-5.3 mmol/L	
CHLORIDE	109		98-110 mmol/L	
CARBON DIOXIDE	21		20-32 mmol/L	
CALCIUM	9.1		8.6-10.3 mg/dL	
PROTEIN, TOTAL	6.5		6.1-8.1 g/dL	
ALBUMIN	4.3		3.6-5.1 g/dL	
GLOBULIN	2.2		1.9-3.7 g/dL (calc)	
ALBUMIN/GLOBULIN RATIO	2.0		1.0-2.5 (calc)	
BILIRUBIN, TOTAL	0.6		0.2-1.2 mg/dL	
ALKALINE PHOSPHATASE	44		36-130 U/L	
AST	14		10-40 U/L	
ALT	14		9-46 U/L	
HEMOGLOBIN A1c	4.9		<5.7 % of total Hgb	IG
For the purpose of screening for the presence of diabetes:				
<div> <div>&lt;5.7%</div> <div>Consistent with the absence of diabetes</div> </div> <div> <div>5.7-6.4%</div> <div>Consistent with increased risk for diabetes (prediabetes)</div> </div> <div> <div>&gt; or =6.5%</div> <div>Consistent with diabetes</div> </div>				
This assay result is consistent with a decreased risk of diabetes.				
Currently, no consensus exists regarding use of hemoglobin A1c for diagnosis of diabetes in children.				
According to American Diabetes Association (ADA) guidelines, hemoglobin A1c <7.0% represents optimal control in non-pregnant diabetic patients. Different metrics may apply to specific patient populations. Standards of Medical Care in Diabetes(ADA).				

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Test Name	In Range	Out Of Range	Reference Range	Lab	
MAGNESIUM	2.0		1.5-2.5 mg/dL	IG	
PHOSPHATE (AS PHOSPHORUS)	3.1		2.5-4.5 mg/dL	IG	
GGT	11		3-90 U/L	IG	
TSH	1.31		0.40-4.50 mIU/L	IG	
SED RATE BY MODIFIED WESTERGREN	2		< OR = 15 mm/h	IG	
CBC (INCLUDES DIFF/PLT)				IG	
WHITE BLOOD CELL COUNT	5.1		3.8-10.8 Thousand/uL		
RED BLOOD CELL COUNT	5.49		4.20-5.80 Million/uL		
HEMOGLOBIN	16.8		13.2-17.1 g/dL		
HEMATOCRIT	47.4		38.5-50.0 %		
MCV	86.3		80.0-100.0 fL		
MCH	30.6		27.0-33.0 pg		
MCHC	35.4		32.0-36.0 g/dL		
RDW	13.0		11.0-15.0 %		
PLATELET COUNT	212		140-400 Thousand/uL		
MPV	10.3		7.5-12.5 fL		
ABSOLUTE NEUTROPHILS	2846		1500-7800 cells/uL		
ABSOLUTE LYMPHOCYTES	1525		850-3900 cells/uL		
ABSOLUTE MONOCYTES	561		200-950 cells/uL		
ABSOLUTE EOSINOPHILS	128		15-500 cells/uL		
ABSOLUTE BASOPHILS	41		0-200 cells/uL		
NEUTROPHILS	55.8		%		
LYMPHOCYTES	29.9		%		
MONOCYTES	11.0		%		
EOSINOPHILS	2.5		%		
BASOPHILS	0.8		%		
URINALYSIS, COMPLETE				IG	
COLOR	DARK YELLOW		YELLOW		
APPEARANCE	CLEAR		CLEAR		
SPECIFIC GRAVITY	1.026		1.001-1.035		
PH	5.5		5.0-8.0		
GLUCOSE	NEGATIVE		NEGATIVE		
BILIRUBIN	NEGATIVE		NEGATIVE		
KETONES		TRACE	NEGATIVE		
OCCULT BLOOD	NEGATIVE		NEGATIVE		
PROTEIN	NEGATIVE		NEGATIVE		
NITRITE	NEGATIVE		NEGATIVE		
LEUKOCYTE ESTERASE	NEGATIVE		NEGATIVE		
WBC	NONE SEEN		< OR = 5 /HPF		
RBC	NONE SEEN		< OR = 2 /HPF		
SQUAMOUS EPITHELIAL CELLS	NONE SEEN		< OR = 5 /HPF		
BACTERIA	NONE SEEN		NONE SEEN /HPF		
HYALINE CAST	NONE SEEN		NONE SEEN /LPF		
This urine was analyzed for the presence of WBC, RBC, bacteria, casts, and other formed elements. Only those elements seen were reported.					
FERRITIN		25 L	38-380 ng/mL	IG	
C-PEPTIDE		0.74 L	0.80-3.85 ng/mL	IG	
DHEA SULFATE	157		93-415 mcq/dL	IG	

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Endocrinology

Test Name	Result	Reference Range	Lab
VITAMIN D,25-OH,TOTAL,IA	33	30-100 ng/mL	IG
Vitamin D Status                      25-OH Vitamin D:			
Deficiency:                                      <20 ng/mL			
Insufficiency:                                      20 - 29 ng/mL			
Optimal:    > or = 30 ng/mL			
For 25-OH Vitamin D testing on patients on D2-supplementation and patients for whom quantitation of D2 and D3 fractions is required, the QuestAssureD(TM) 25-OH VIT D, (D2,D3), LC/MS/MS is recommended: order code 92888 (patients >2yrs).			
For additional information, please refer to <a href="http://education.QuestDiagnostics.com/faq/FAQ199">http://education.QuestDiagnostics.com/faq/FAQ199</a> (This link is being provided for informational/ educational purposes only.)			
Physician Comments:			

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			Cardio IQ®				
Test Name	Current		Risk/Reference Interval				Historical
	Result & Risk		Optimal	Moderate	High	Units	Result & Risk
	Optimal	Non-Optimal					
LIPID PANEL							
CHOLESTEROL, TOTAL	164		<200	N/A	>=200	mg/dL	
HDL CHOLESTEROL	46		>=40	N/A	<40	mg/dL	
TRIGLYCERIDES	64		<150	150-199	>=200	mg/dL	
LDL-CHOLESTEROL		103	<100	100-129	>129	mg/dL (calc)	
CHOL/HDL-C RATIO		3.6	<=3.5	3.6-5.0	>5.0	calc	
NON-HDL CHOLESTEROL	118		<130	130-189	>=190	mg/dL (calc)	
LIPOPROTEIN FRACTIONATION, ION MOBILITY							
LDL PARTICLE NUMBER		1796	<1138	1138-1409	>1409	nmol/L	
LDL SMALL		315	<142	142-219	>219	nmol/L	
LDL MEDIUM		436	<215	215-301	>301	nmol/L	
HDL LARGE		5768	>6729	6729-5353	<5353	nmol/L	
LDL PATTERN	A		A	N/A	B	Pattern	
LDL PEAK SIZE		219.3	>222.9	222.9-217.4	<217.4	Angstrom	
APOLIPOPROTEINS							
APOLIPOPROTEIN B	88		<90	90-119	>=120	mg/dL	
LIPOPROTEIN (a)	26		<75	75-125	>125	nmol/L	
INFLAMMATION							
HS CRP	0.7		<1.0	1.0-3.0	>3.0	mg/L	
LP PLA2 ACTIVITY	110		<=123	N/A	>123	nmol/ min/mL	

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Test Name	Current		Risk/Reference Interval			Historical
	Result & Risk		Optimal	Moderate	High	Units
	Optimal	Non-Optimal				
METABOLIC MARKERS						
INSULIN	2.2		<=18.4	N/A	>18.4	uIU/mL

For details on reference ranges please refer to the reference range/comment section of the report.

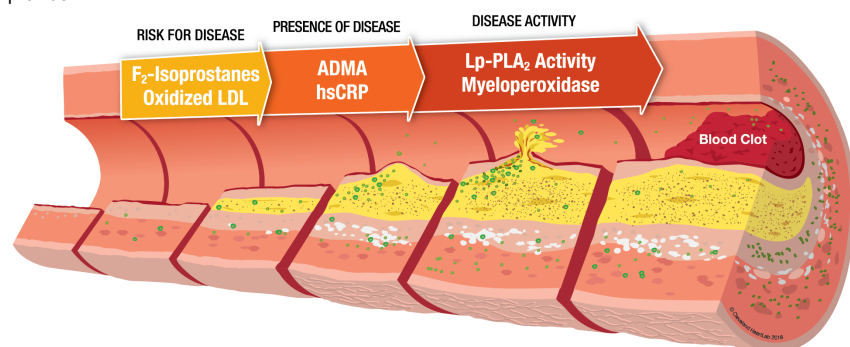
**Medical Information For Healthcare Providers:** If you have questions about any of the tests in our Cardio IQ offering, please call Client Services at our Quest Diagnostics-Cleveland HeartLab Cardiometabolic Center of Excellence. They can be reached at 866.358.9828, option 1 to arrange a consult with our clinical education team.

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## INFLAMMATION SUMMARY

### Your medical provider has gone beyond standard testing to examine your inflammation levels so you can Know Your Risk® for heart attack and stroke!

Lowering blood pressure, blood sugar and cholesterol reduces risk, but 50% of heart attack or stroke victims have normal cholesterol levels. Measuring inflammation levels can help identify hidden risk so your provider can catch the beginning or treat advanced stages of vascular disease. Always review your results and treatment considerations with your medical provider.



**Disclaimer:** The information provided here is for educational purposes only, and the results provided should be reviewed and interpreted by the treating physician.

This Inflammation Summary is generated when two or more of the inflammation tests listed below are ordered, or for repeat tests due to a sample problem.

Risk for Disease		Presence of Disease		Disease Activity	
Test	Result	Test	Result	Test	Result
F2-Isoprostanes/Creatinine	TNO	ADMA/SDMA	TNO	Lp-PLA2 Activity nmol/min/mL	110 L
<p><i>This urine test was not ordered.</i></p> <p>Your body needs F2-Isoprostanes for basic functions like making muscle. In excess, F2-Isops caused by inactivity, smoking and processed foods increase oxidation and blood vessel damage.</p>		<p><i>This blood test was not ordered.</i></p> <p>ADMA is a chemical in your blood that reduces nitric oxide, a molecule needed to keep a healthy endothelium (the cells that line your blood vessels). High levels of ADMA indicate unhealthy cells in the blood vessel and may identify risk of cardiovascular disease.</p>		<p>Your result is in the desirable range suggesting that you may have limited active cholesterol build-up.</p> <p>Lp-PLA2 Activity measures vascular-specific inflammation. When cholesterol enters and gets trapped in the vessel wall, inflammation occurs. Lp-PLA2 Activity may identify active cholesterol build-up inside the vessel wall and the progression of cardiovascular disease.</p>	
Oxidized LDL	TNO	hsCRP mg/L	0.7 L	Myeloperoxidase	TNO
<p><i>This blood test was not ordered.</i></p> <p>OxLDL measures oxidized damage to LDL cholesterol (bad cholesterol). High levels trigger inflammation, increasing your risk of developing metabolic syndrome and your future risk of plaque build-up.</p>		<p>Your result in the desirable range suggests that you have low amounts of general inflammation in your body.</p> <p>hsCRP measures inflammation in the body. Increases of hsCRP are seen with recent illness, tissue injury, if you are fighting a virus or infection, with periodontal (gum) disease as well as with cardiovascular disease.</p>		<p><i>This blood test was not ordered.</i></p> <p>MPO identifies vulnerable plaque due to the breakdown of cells lining the blood vessel. This breakdown leads to white blood cells attacking the vessel wall and marks the progression of cardiovascular disease.</p>	
Your Lifestyle Considerations					
<ul style="list-style-type: none"><li>Continue to focus on a healthy diet and exercise regularly to reduce your risk of developing cardiovascular disease in the future.</li></ul>					

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Reference Range/Comments					
Analyte Name	In Range	Out Range	Reference Range		Lab
HDL LARGE		5768	>6729 nmol/L		Z4M
Relative Risk: Optimal >6729; Moderate 6729-5353; High <5353. Male Reference Range: 4334 to 10815 nmol/L; Female Reference Range: 5038 to 17886 nmol/L.					
LDL MEDIUM		436	<215 nmol/L		Z4M
Relative Risk: Optimal <215; Moderate 215-301; High >301. Male Reference Range: 167 to 485 nmol/L; Female Reference Range: 121 to 397 nmol/L.					
LDL PARTICLE NUMBER		1796	<1138 nmol/L		Z4M
Relative Risk: Optimal <1138; Moderate 1138-1409; High >1409. Male and Female Reference Range: 1016 to 2185 nmol/L.					
LDL PEAK SIZE		219.3	>222.9 Angstrom		Z4M
Relative Risk: Optimal >222.9; Moderate 222.9-217.4; High <217.4. Male and Female Reference Range: 216 to 234.3 Angstrom. Adult cardiovascular event risk category cut points (optimal, moderate, high) are based on an adult U.S. reference population plus two large cohort study populations. Association between lipoprotein subfractions and cardiovascular events is based on Musunuru et al. ATVB.2009;29:1975. For additional information, please refer to http://education.QuestDiagnostics.com/faq/FAQ134 (This link is being provided for informational/educational purposes only.)This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Cardiometabolic Center of Excellence at Cleveland HeartLab. It has not been cleared or approved by the U.S. Food and Drug Administration. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.					
LDL SMALL		315	<142 nmol/L		Z4M
Relative Risk: Optimal <142; Moderate 142-219; High >219. Male Reference Range: 123 to 441 nmol/L; Female Reference Range: 115 to 386 nmol/L.					
LDL-CHOLESTEROL		103	<100 mg/dL (calc)		Z4M
Desirable range <100 mg/dL for primary prevention; <70 mg/dL for patients with CHD or diabetic patients with >= 2 CHD risk factors. LDL-C is now calculated using the Martin-Hopkins calculation, which is a validated novel method providing better accuracy than the Friedewald equation in the estimation of LDL-C. Martin SS et al. JAMA. 2013;310(19): 2061-2068 (http://education.QuestDiagnostics.com/faq/FAQ164)					
APOLIPOPROTEIN B	88		<90 mg/dL		Z4M
Risk: Optimal <90 mg/dL; Moderate 90-119 mg/dL; High >= 120 mg/dL; Cardiovascular event risk category cut points (optimal, moderate, high) are based on National Lipid Association recommendations- Jacobson TA et al. J of Clin Lipid. 2015; 9: 129-169 and Jellinger PS et al. Endocr Pract. 2017;23(Suppl 2):1-87.					
CHOL/HDL-C RATIO	3.6		<5.0 calc		Z4M
CHOLESTEROL, TOTAL	164		<200 mg/dL		Z4M
HDL CHOLESTEROL	46		>39 mg/dL		Z4M
HS CRP	0.7		<1.0 mg/L		Z4M
The AHA/CDC Guidelines recommend hs-CRP ranges for identifying Relative Cardiovascular Risk in patients ages >17 years: <1.0 mg/L Lower Relative Cardiovascular Risk; 1.0-3.0 mg/L Average Relative Cardiovascular Risk; 3.1-10.0 mg/L Higher Relative Cardiovascular Risk. For patients with higher cardiovascular risk, consider retesting in 1-2 weeks to exclude a benign transient elevation secondary to infection or inflammation from the baseline CRP value. Persistent elevations of >10.0 mg/L upon retesting may be associated with infection and inflammation. The AHA/CDC recommendations are based on Pearson TA et al. Circulation. 2003;107:499-511.					
INSULIN	2.2		<18.5 uIU/mL		Z4M
Reference Range <=18.4. Risk: Optimal <=18.4, Moderate NA, High >18.4. Adult cardiovascular event risk category cut points (optimal, moderate, high) are based on Insulin Reference interval studies performed at Quest Diagnostics in 2022.					
LDL PATTERN	A		A Pattern		Z4M
Relative Risk: Optimal Pattern A; High Pattern B. Reference Range: Pattern A.					
LIPOPROTEIN (a)	26		<75 nmol/L		Z4M
Risk: Optimal <75 nmol/L; Moderate 75-125 nmol/L; High >125 nmol/L. Cardiovascular event risk category cut points (optimal, moderate, high) are based on Tsimika S. JACC 2017;69:692-711.					

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Reference Range/Comments				
Analyte Name	In Range	Out Range	Reference Range	Lab
LP PLA2 ACTIVITY	110		<124 nmol/min/mL	Z4M
Relative Risk: Optimal <=123 nmol/min/mL; High >123 nmol/min/mL. This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Cardiometabolic Center of Excellence at Cleveland HeartLab. It has not been cleared or approved by the U.S. Food and Drug Administration. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.				
NON HDL CHOLESTEROL	118		<130 mg/dL (calc)	Z4M
For patients with diabetes plus 1 major ASCVD risk factor, treating to a non-HDL-C goal of <100 mg/dL (LDL-C of <70 mg/dL) is considered a therapeutic option.				
TRIGLYCERIDES	64		<150 mg/dL	Z4M

PERFORMING SITE:

IG     QUEST DIAGNOSTICS-IRVING, 4770 REGENT BLVD., IRVING, TX 75063-2445 Laboratory Director: ROBERT L BRECKENRIDGE,MD, CLIA: 45D0697943  
Z4M    CLEVELAND HEARTLAB INC, 6701 CARNEGIE AVENUE SUITE 500, CLEVELAND, OH 44103-4623 Laboratory Director: BILL G RICHENDOLLAR,MD, CLIA: 36D1032987