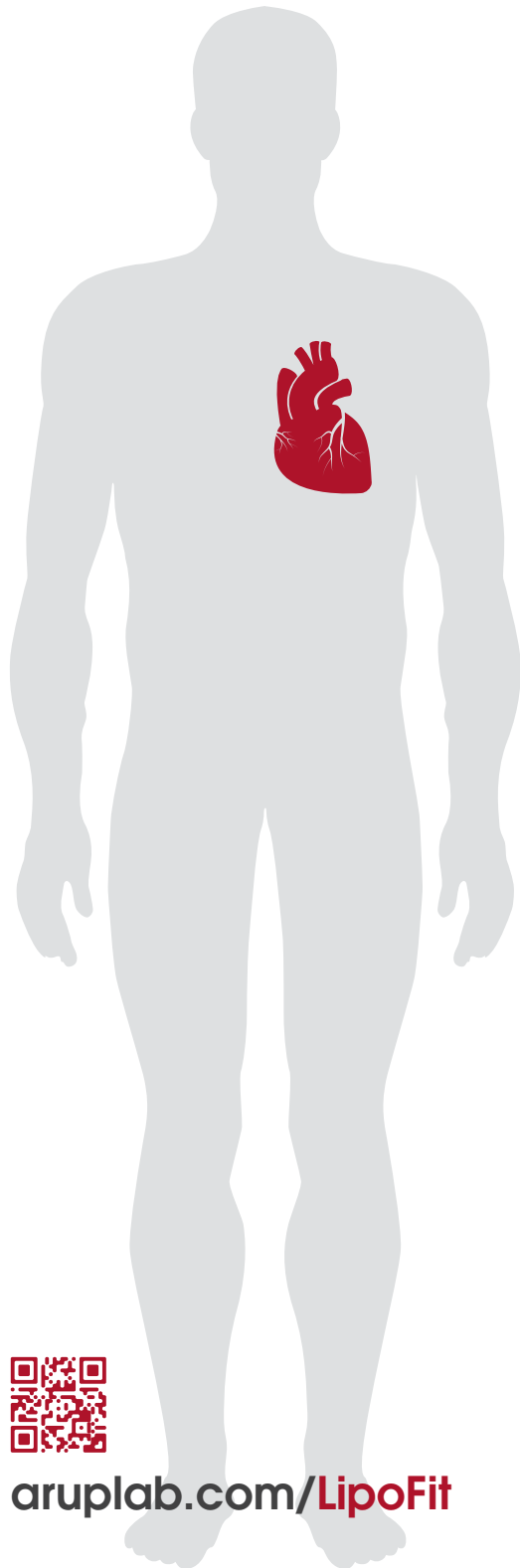


## REFERENCES

1. Centers for Disease Control and Prevention. Heart disease facts. Last reviewed May 2023; accessed Apr 2024.
2. Ivanova EA, Myasoedova VA, Melnichenko AA, et al. Small dense low-density lipoprotein as biomarker for atherosclerotic diseases. *Oxid Med Cell Longev*. 2017;2017:1273042.



[aruplab.com/LipoFit](https://aruplab.com/LipoFit)



[aruplab.com](https://aruplab.com)

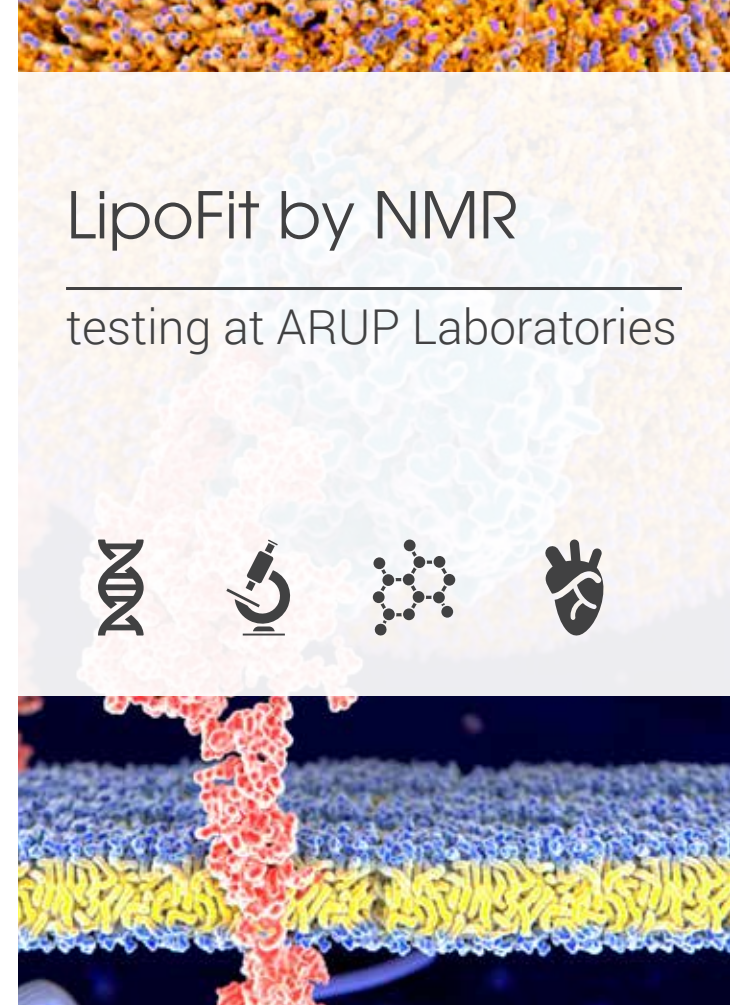
### ARUP LABORATORIES

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keyword: LIPOFIT

*A nonprofit enterprise of the University of  
Utah and its Department of Pathology*

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# LipoFit by NMR

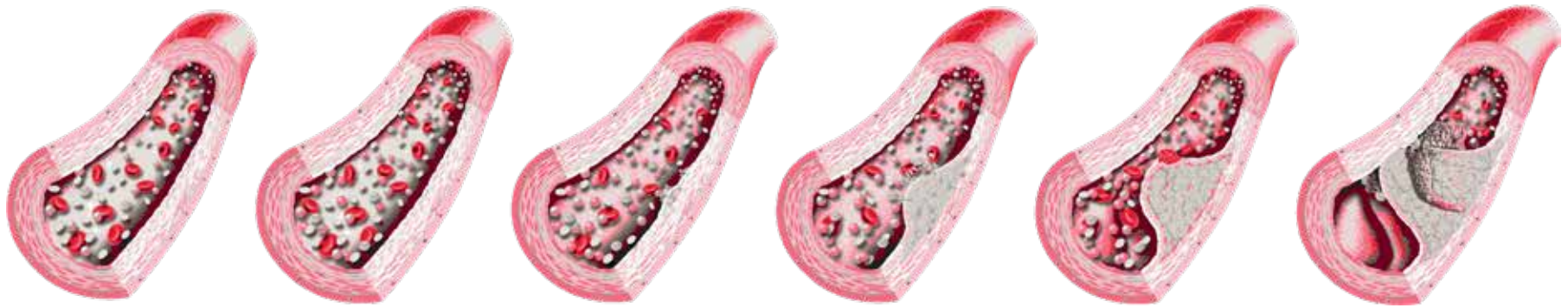
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## testing at ARUP Laboratories



LDL particles binding to LDL receptors on the cell membrane.





**Every 33 seconds, one person in the U.S. dies from cardiovascular disease.<sup>1</sup>**

LipoFit by NMR is a competitive alternative to lipid particle analysis tests. High-resolution nuclear magnetic resonance (NMR) technology is used to measure a patient's lipoprotein particle number and size.

#### HOW ARE LIPOPROTEIN PARTICLE NUMBER AND SIZE RELATED TO CARDIOVASCULAR EVENTS?

Research studies have demonstrated that individuals with a high number of small low-density lipoprotein (LDL) particles have a greater cardiovascular disease (CVD) risk than those with fewer but larger LDL particles for a given total cholesterol concentration. Even among LDL particles, small dense LDL may be more atherogenic than large LDL.<sup>2</sup>

#### WHAT ARE THE BENEFITS OF LIPO PARTICLE TESTING AT ARUP?

- Testing is performed seven days per week
- Enhanced graphical reports are available for both tests
- Extended refrigerated specimen stability (30 day stability for ARUP test code 2013715)

#### WHEN TO ORDER TESTING?

Lipid particle analysis testing may be useful to guide therapy in appropriate high-risk patients with:

- Type 2 diabetes mellitus
- Metabolic syndrome
- Elevated triglycerides

It is not recommended to routinely order lipid particle analysis as screening tests for cardiovascular disease.

#### LABORATORY TESTING AT ARUP

##### Test Name and Code

LipoFit by NMR (2013716)

**Methodology:** Quantitative Nuclear Magnetic Resonance Spectroscopy/Quantitative Enzymatic Assay/Detergent Solubilization

LipoFit by NMR, Particle Count Only (2013715)

**Methodology:** Quantitative Nuclear Magnetic Resonance Spectroscopy

#### THREE EASY STEPS FOR QUALITY RESULTS

##### 1. Patient fasting is required.

- **12-hour fasting recommended:** Elevated triglycerides can interfere with accurate measurements of lipoprotein particle size and number by NMR.

##### 2. Use the appropriate collection tube.

- Greiner Bio-One Clot Activator Tubes (ARUP supply #54325) or plain red top serum tubes (BD or Greiner) are acceptable.
- **BD serum separator tubes are not acceptable:** Use of incompatible tubes can lead to quantitative interferences and/or inability to report results.
- Tube type compatibility for LipoFit is similar to alternative NMR-based assays.

##### 3. Transfer 4 mL serum to an ARUP standard transport tube (minimum 2 mL required).

**\$240 billion**

Heart disease costs the U.S. approximately \$240 billion annually from healthcare services, medications, lost productivity, and other expenses.<sup>1</sup>

There are 805,000 myocardial infarctions (heart attacks) annually in the United States.<sup>1</sup>

