SpectraCell Laboratories
Science + Health + Solutions

ApoE Report

Sample Reports

Date Collected: 7/26/2016

SpectraCell Laboratories
Science + Health + Solutions

Phone: (713)621-3101
TollFree: (800)227-LABS(5227)
Fax: (281)568-5246

Laboratory Report

Account Number:

Name: Doe, Jane
Gender: F DOB: 1/3/1947

Accession Number:
Requisition Number:

Date Collected: July 26, 2016
Date Received: July 28, 2016
Date Reported: August 4, 2016

Apolipoprotein E Genotype Test Result

Test	Genotype	Recommendations
Apolipoprotein E Genotype	E2/E2	• Monitor patient for symptoms of hyperlipoproteinemia • Predicted positive response to statin therapy • Potential positive response in LDL-C levels with moderate alcohol intake

Result Interpretation

Apolipoprotein E is an essential protein for the metabolism of cholesterol and triglycerides. It is a major component of plasma lipoproteins including chylomicrons, VLDL (very low density lipoproteins), IDL (intermediate density lipoproteins), and HDL (high density lipoproteins). There are three common genetic variants of ApoE: E2, E3 and E4, leading to three different conformations of the protein that affect its ability to perform its function. Because each person carries two copies of the ApoE gene, there are 6 possible ApoE genotypes.

E2/E2: The E2 isoform of ApoE is often associated with reduced circulating levels of total and LDL cholesterol and potentially increased triglyceride levels. Most carriers of the E2 allele (genotypes E2/E2 or E2/E3) were shown to have slightly reduced risk of coronary heart disease compared to those with the normal E3/E3 genotype. However, under certain conditions, those with the homozygous E2/E2 genotype may be especially prone to develop type III hyperlipoproteinemia. Type III hyperlipoproteinemia is a disorder characterized by increased cholesterol and triglycerides and the formation of skin lesions called xanthomas, and it is associated with early development of cardiovascular disease. Conditions that may trigger type III hyperlipoproteinemia in individuals with the E2/E2 genotype include diabetes mellitus, obesity, and hypothyroidism. Approximately 1-2% of the population carries the E2/E2 genotype.

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CLIA# 45D0710715
James W. Jacobson, Ph.D., Laboratory Director

Testing Limitations

ApoE genotyping can provide useful information concerning risk of developing cardiovascular disease and, in conjunction with other lipid testing, can provide guidance for treatment regimens. However, genotyping alone is not predictive of disease development, and should not be used as the primary means of clinical diagnosis or treatment decision making.

Rare isoforms of ApoE may not be detected by this methodology. Mutations in primer binding sites may prevent detection.

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Laboratory Report

Account Number:

Name: Doe, Jon
Gender: M DOB: 10/30/1981

Accession Number:
Requisition Number:

Date Collected: August 8, 2016
Date Received: August 9, 2016
Date Reported: August 17, 2016

Apolipoprotein E Genotype Test Result

Test	Genotype	Recommendations
Apolipoprotein E Genotype	E2/E3	• Monitor patient for symptoms of hyperlipoproteinemia • Predicted positive response to statin therapy • Potential positive response in LDL-C levels with moderate alcohol intake

Result Interpretation

Apolipoprotein E is an essential protein for the metabolism of cholesterol and triglycerides. It is a major component of plasma lipoproteins including chylomicrons, VLDL (very low density lipoproteins), IDL (intermediate density lipoproteins), and HDL (high density lipoproteins). There are three common genetic variants of ApoE: E2, E3 and E4, leading to three different conformations of the protein that affect its ability to perform its function. Because each person carries two copies of the ApoE gene, there are 6 possible ApoE genotypes.

E2/E3: The E2 isoform of ApoE is often associated with reduced circulating levels of total and LDL cholesterol and potentially increased triglyceride levels. Most carriers of the E2 allele (genotypes E2/E2 or E2/E3) were shown to have slightly reduced risk of coronary heart disease compared to those with the normal E3/E3 genotype. Approximately 15% of the population carries the E2/E3 genotype.

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Laboratory Report

Account Number:

Name: Doe, Jane
Gender: F DOB: 10/25/1978

Accession Number:
Requisition Number:

Date Collected: August 12, 2016
Date Received: August 15, 2016
Date Reported: August 24, 2016

Apolipoprotein E Genotype Test Result

Test	Genotype	Recommendations
Apolipoprotein E Genotype	E2/E4	• Normal phenotypes • Normal treatment and dietary guidelines as determined by lipid profiles

Result Interpretation

Apolipoprotein E is an essential protein for the metabolism of cholesterol and triglycerides. It is a major component of plasma lipoproteins including chylomicrons, VLDL (very low density lipoproteins), IDL (intermediate density lipoproteins), and HDL (high density lipoproteins). There are three common genetic variants of ApoE: E2, E3 and E4, leading to three different conformations of the protein that affect its ability to perform its function. Because each person carries two copies of the ApoE gene, there are 6 possible ApoE genotypes.

E2/E4: One of the rarest ApoE genotypes is E2/E4 (less than 1% of the population carries this genotype). There are no additional cardiovascular disease risk factors associated with this genotype. Treatment and dietary guidelines should be determined by lipid profile results.

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Rare isoforms of ApoE may not be detected by this methodology. Mutations in primer binding sites may prevent detection.

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Laboratory Report

Account Number:

Name: Doe, Jon
Gender: M DOB: 3/25/1973

Accession Number:
Requisition Number:

Date Collected: August 16, 2016
Date Received: August 17, 2016
Date Reported: August 24, 2016

Apolipoprotein E Genotype Test Result

Test	Genotype	Recommendations
Apolipoprotein E Genotype	E3/E3	• Normal phenotypes • Normal treatment and dietary guidelines as determined by lipid profiles

Result Interpretation

Apolipoprotein E is an essential protein for the metabolism of cholesterol and triglycerides. It is a major component of plasma lipoproteins including chylomicrons, VLDL (very low density lipoproteins), IDL (intermediate density lipoproteins), and HDL (high density lipoproteins). There are three common genetic variants of ApoE: E2, E3 and E4, leading to three different conformations of the protein that affect its ability to perform its function. Because each person carries two copies of the ApoE gene, there are 6 possible ApoE genotypes.

E3/E3: The most common ApoE genotype is E3/E3 (approximately 55% of the population carries this genotype). These individuals express only the E3 isoform of ApoE, which is considered to be normal with no associated risk factors. Treatment and dietary guidelines should be determined by lipid profile results.

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Laboratory Report

Account Number:

Name: Doe, Jane
Gender: F DOB: 10/22/1961

Accession Number:
Requisition Number:

Date Collected: August 17, 2016
Date Received: August 18, 2016
Date Reported: August 24, 2016

Apolipoprotein E Genotype Test Result

Test	Genotype	Recommendations
Apolipoprotein E Genotype	E3/E4	• May respond less well to statin therapy • Positive reponse to low fat diet predicted • Alcohol consumption and smoking may additionally increase risk of disease progression

Result Interpretation

Apolipoprotein E is an essential protein for the metabolism of cholesterol and triglycerides. It is a major component of plasma lipoproteins including chylomicrons, VLDL (very low density lipoproteins), IDL (intermediate density lipoproteins), and HDL (high density lipoproteins). There are three common genetic variants of ApoE: E2, E3 and E4, leading to three different conformations of the protein that affect its ability to perform its function. Because each person carries two copies of the ApoE gene, there are 6 possible ApoE genotypes.

E3/E4: The E4 isoform of ApoE is associated with increased levels of plasma and LDL cholesterol and therefore an increased risk of coronary heart disease and atherosclerosis. The presence of an E4 allele in the E3/E4 and E4/E4 genotypes is a risk factor for early development of these disease conditions. Evidence indicates that carriers of an E4 allele may not respond well to statin therapy for lowering cholesterol compared to those with normal or E2 alleles. Alcohol intake and smoking may exacerbate the risks associated with the presence of an E4 allele. Approximately 25% of the population carries the E3/E4 genotype.

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Laboratory Report

Account Number:

Name: Doe, Jane
Gender: F DOB: 2/2/1964

Accession Number:
Requisition Number:

Date Collected: August 16, 2016
Date Received: August 17, 2016
Date Reported: August 24, 2016

Apolipoprotein E Genotype Test Result

Test	Genotype	Recommendations
Apolipoprotein E Genotype	E4/E4	• May respond less well to statin therapy • Positive reponse to low fat diet predicted • Alcohol consumption and smoking may additionally increase risk of disease progression

Result Interpretation

Apolipoprotein E is an essential protein for the metabolism of cholesterol and triglycerides. It is a major component of plasma lipoproteins including chylomicrons, VLDL (very low density lipoproteins), IDL (intermediate density lipoproteins), and HDL (high density lipoproteins). There are three common genetic variants of ApoE: E2, E3 and E4, leading to three different conformations of the protein that affect its ability to perform its function. Because each person carries two copies of the ApoE gene, there are 6 possible ApoE genotypes.

E4/E4: The E4 isoform of ApoE is associated with increased levels of plasma and LDL cholesterol and therefore an increased risk of coronary heart disease and atherosclerosis. The presence of an E4 allele in the E3/E4 and E4/E4 genotypes is a risk factor for early development of these disease conditions. Evidence indicates that carriers of an E4 allele may NOT respond well to statin therapy for lowering cholesterol compared to those with normal or E2 alleles. Alcohol intake and smoking may exacerbate the risks associated with the presence of an E4 allele. Approximately 1-2% of the population carries the E4/E4 genotype.

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Rare isoforms of ApoE may not be detected by this methodology. Mutations in primer binding sites may prevent detection.