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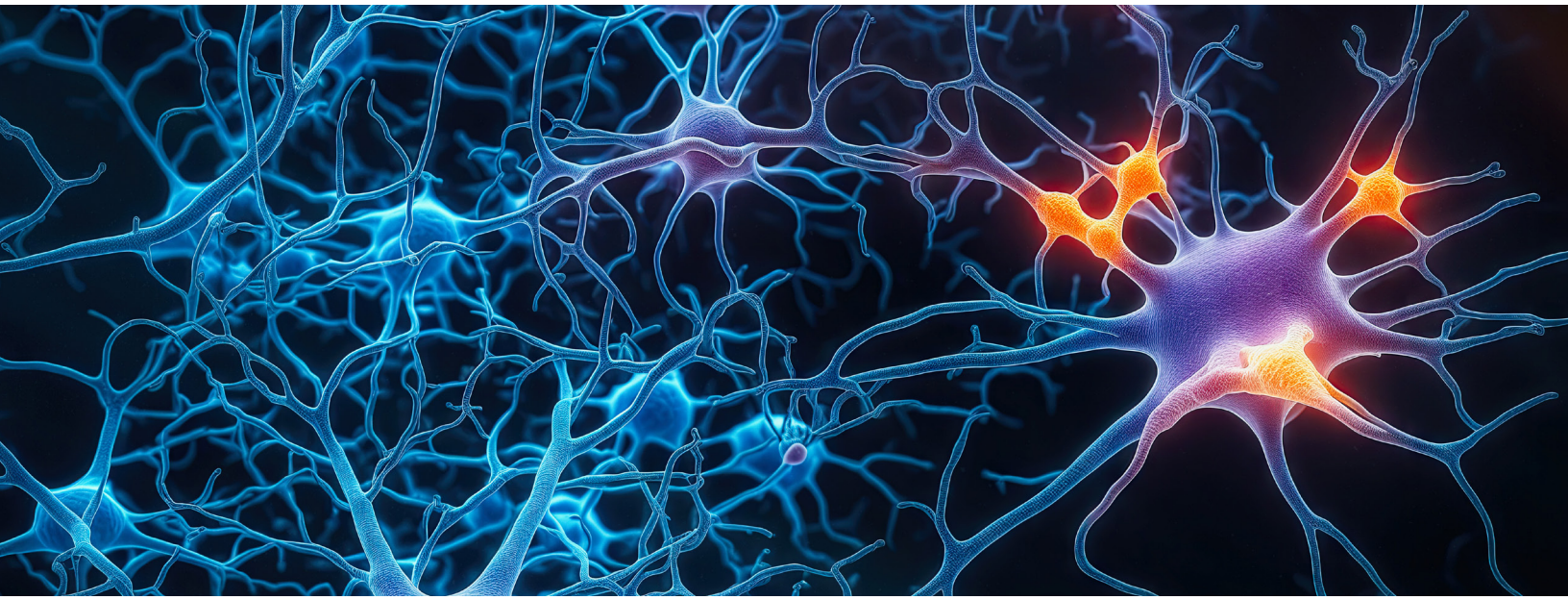
Understanding Testing for Alzheimer's Disease: ApoE and Risk



What is Alzheimer's Disease?

Alzheimer's disease is a brain disorder that affects memory, thinking, and behaviour. It is the most common cause of dementia, which is a condition where a person has trouble remembering things, thinking clearly, and doing everyday tasks.

What is ApoE?

ApoE (apolipoprotein E) is a protein made from the *APOE* gene. It plays a role transporting fats throughout the body. It comes in different forms, called alleles. An individual has two alleles of ApoE, one inherited from their mother and the other from their father. Some forms of ApoE are linked to a higher risk of Alzheimer's disease.

What is Testing for ApoE?

Genetic testing is a way to look at your genes to see if you have certain traits or risks for diseases. For Alzheimer's disease, a test can check for different forms of ApoE to see if you have a higher chance of developing the condition. This can be completed either at the genetic (genotype or alleles) or protein (isoform) level.

How Does ApoE Affect Alzheimer's Disease Risk?

There are three main types of ApoE alleles or isoforms:

1. **ApoE ε2 –** This form is associated with a lower risk for Alzheimer's disease.
2. **ApoE ε3 –** This is the most common form and is associated with an average risk for Alzheimer's disease.
3. **ApoE ε4 –** This form is linked to a higher risk of Alzheimer's disease.

Can ApoE Testing Predict Alzheimer's Disease?

ApoE testing can give you an idea of your risk, but it doesn't guarantee you will or will not develop Alzheimer's disease. Having one or two ApoE ε4 alleles increases your risk, but many people with these alleles never get Alzheimer's disease. On the other hand, people without ApoE ε4 can still get Alzheimer's disease.

Should You Get Tested?

It's a personal decision. Some people want to know their risk, while others may not want to know. If you are thinking about getting tested, talk to a doctor or genetic counsellor to understand the pros and cons of testing.

Why Might Someone Consider ApoE Testing:

- **Early Awareness:** Knowing your ApoE status can help you and your healthcare provider plan for the future.
- **Lifestyle Choices:** It can guide you to make choices to keep your brain healthy, such as staying active, eating well, and staying socially engaged.
- **Research:** Knowing a person's ApoE information can help researchers find better ways to prevent or treat Alzheimer's disease.
- **Treatment options:** Establishing ApoE status/*APOE* genotype is recommended for patients with early Alzheimer's Disease who are candidates for anti-amyloid monoclonal antibody therapy.

What Can You Do to Keep Your Brain Healthy

Even if you have a higher risk for Alzheimer's disease, there are things you can do to help your brain stay healthy:

- **Stay physically active**
  (like walking or dancing)
- **Eat a healthy diet**
  (like fruits, vegetables, and whole grains)
- **Stay mentally active**
  (like reading, doing puzzles, or learning something new)
- **Stay socially connected with family and friends**

If you have further questions, please contact **1-844-363-4357** or **Ask.Genetics@LifeLabs.com** to speak with a Genetic Counsellor.

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