

D2d Study Participant Information: Hemoglobin Variant S

During the baseline visit of the D2d study, when the D2d Laboratory completed the hemoglobin A1c blood test on your blood sample, you were found to have the **hemoglobin variant S**. Below is some information to help you understand this finding.

What are hemoglobin variants?

Hemoglobin is an important part of the red blood cell. Hemoglobin gives blood its red color and carries oxygen from your lungs to all parts of your body.

Most people have only one kind of hemoglobin called hemoglobin A but some people also have another kind, for example hemoglobin S, C or E. These less common types of hemoglobin are called **hemoglobin variants**. You can have a hemoglobin variant and not know it because it does not cause symptoms or disease. Having a hemoglobin variant that does not cause health problems is called *having the trait* or *being a carrier*.

Hemoglobin S trait (also called sickle cell trait) occurs when a person inherited one hemoglobin S gene from one parent and one hemoglobin A gene from the other parent. Hemoglobin S trait is found in 1 out of every 12 Black or African American people and also in people whose ancestors came from sub-Saharan Africa, Latin America, Saudi Arabia, Mediterranean countries and the Caribbean. *Hemoglobin S trait is not a disease*. Someone with hemoglobin S trait is a carrier and can pass it on to their children.

Sickle cell anemia occurs when a person inherits two hemoglobin S genes, one from each parent. It can cause severe anemia and episodes of pain. You do not have sickle cell anemia.

What do you need to do?

- You may want to let your primary care providers know that you have a hemoglobin variant by sharing this note with them. *Please note this hemoglobin variant test was done in a research laboratory; therefore, your doctor may wish to repeat it.*
- Some hemoglobin variants can cause inaccurate hemoglobin A1c test results. However, not all hemoglobin A1c testing methods are affected by the variants. If your healthcare provider knows what variant you have, he or she can make sure that your blood is tested on a method that will provide an accurate result.
- If you are thinking of having children, you and your partner may want to meet with a genetic counselor to discuss the risk of passing on the trait to your children.

Does having a hemoglobin variant affect my risk of diabetes?

No. Having a hemoglobin variant does not affect your risk of developing diabetes.

What do I do if I have more questions?

Please speak to the D2d study investigator, Dr. _____, or discuss this with your primary care provider.