What is Hemoglobin?
Hemoglobin is the substance in the red blood cells, which carries oxygen to all parts of the body. It also gives blood its red color. There are many types of hemoglobin. The hemoglobin, which most people have, is called normal/adult hemoglobin (A).

WHY TEST ALL ETHNIC / RACIAL GROUPS?
It is a myth that only Black Americans have sickle cell disease and other hemoglobin variants. Sickle Cell disease has been found in descendants of Americans, Italians, Caribbeans, Greeks and other racial and ethnic groups from the Mediterranean Sea area. Other hemoglobin variants can be detected by the same tests that are used to identify the presence of sickle cell disorders. The test is oftentimes called the “Sickle Cell Test,” but is not confined to the detection of sickle hemoglobin.

WHAT ARE SOME OF THE HEMOGLOBIN VARIANTS?
The more common types of abnormal hemoglobin are those, which cause the red blood cells to develop a sickle shape, rather than it’s normal round shape.

This change from a round to sickle shape causes the pain crisis experienced by many individuals who have sickle cell disease. Disorders such as SS (Sickle Cell Anemia), SC (Sickle Hemoglobin C Disease), SD (Sickle Cell Hemoglobin D Disease) and SE (Sickle Cell Hemoglobin E Disease) are referred to as sickle cell disease.

At present, there is no cure for sickle cell disease. Only the clinical problems (symptoms) are treated. The clinical features associated with sickle cell diseases (other than sickle cell anemia) are usually not as severe as the symptoms associated with sickle cell anemia itself. Some sickle cell patients tire easily, have pain in their joints, stomach cramps, a retardation of growth, yellow jaundice (yellowish) tinge to the whites of the eyeballs. Leg ulcers, frequent colds and infections and a restriction of physical activities.

Another abnormal hemoglobin condition is sickle cell trait (AS). Individuals who have sickle cell trait are usually healthy and do not have health problems under normal conditions. However, persons who have sickle cell trait are advised against flying in unpressurized aircraft at an altitude above 8,000 feet or deep sea diving due to the possibility of sickling of the red blood cell. If a person who has sickle cell trait should ever see blood in his/her urine (hematuria), he/she should see a doctor immediately.

The existence of sickle cell is not felt to be “all bad.” Some researchers believe sickle cell trait serves as a protection against a severe form of malaria fever (Falciparum Malaria).

If both parents have sickle cell trait, the chance is one in four (25%) that the child will be normal: two in four (50%) that the child will have sickle cell trait: and one in four (25%) that the child will have sickle cell anemia.

All abnormal hemoglobin are inherited. They are not contagious and can only be passed from parent to child. Once a person has been identified as having a trait or the disease, he/she will always have it. The trait will not turn into the disease or vice versa.