Approved March 3, 2011

Patient I.D. Plate

RESEARCH PARTICIPANT INFORMED CONSENT AND PRIVACY AUTHORIZATION FORM

Protocol Title: Functional Genomics of Platelet Aggregation Using iPS and Derived Megakaryocytes

Application No.: NA_00045603

Sponsor: National Heart Lung and Blood Institute

Principal Investigator: Lewis C. Becker, MD

1. What you should know about this study:

- You are being asked to join a research study.
- This consent form explains the research study and your part in the study.
- Please read it carefully and take as much time as you need.
- Please ask questions at any time about anything you do not understand.
- You are a volunteer. If you join the study, you can change your mind later. You can decide not to take part or you can quit at any time. There will be no penalty or loss of benefits if you decide to quit the study.
- During the study, we will tell you if we learn any new information that might affect whether you wish to continue to be in the study.
- Ask your study doctor or the study team to explain any words or information in this informed consent that you do not understand.

2. Why is this research being done?

This research is being done to learn how genes regulate the function of platelets in clotting. Platelets are small particles in the blood that help it to clot.

The overall goal of the research is to better understand platelet function. Platelets are important to researchers who study coronary disease and stroke as they are the sticky cells in blood that are in part responsible for clots that may predispose people to these health problems.

Adult stem cells are cells that have the potential to develop into different body cell types. (Adult stem cells are different from embryonic stem cells created from fetuses). When a stem cell is created, it has the ability to divide and make different kinds of cells, like blood cells. In this study, we will take cells from your blood, create an induced pluripotent stem cell (iPS) in the laboratory, grow more of these iPS cells in the laboratory, and then from them create blood cells, called megakaryocytes or MKs. MK's are the cells that make platelets in the human body.

In your case, enough MK cells can be made to study how genes influence platelet function both normally and abnormally. You have already given us your genetic information when you first participated in GeneSTAR.

People who have already participated in the prior genetic study of platelet function prior to and following two weeks of aspirin (GeneSTAR) and who have already had the genetic testing are eligible for this study if they are over 21 years of age and do not have diabetes, cardiovascular disease, any new known bleeding disorder, AIDS, advanced cancer, cancer under treatment, or autoimmune diseases, like lupus for example..

There will be 400 people in the study.

3. What will happen if you join this study?

If you agree to be in this study, we will ask you to do the following things:

Come in to Johns Hopkins for a single visit. At this visit:

- A study doctor will perform a brief physical examination and medical history to assure you are eligible for the study.
- The study doctor or nurse will then take about 7 tablespoons of blood from a needle inserted into your arm while you are lying down.
- After that you will be offered some juice and a snack and stay for 30 minutes for observation before you leave
- The visit will take 90 minutes to 2 hours.

What will happen to your blood sample?

- From your own blood, we will grow induced pluripotent stem cells.
- The blood will be used only for research as described and no results will be given to you or your doctor.
- All of the work on deriving the iPS cells and making the MK cells will be done in the laboratory at Johns Hopkins. Your blood, iPS cells, MK cells and platelets will be used directly for research at Johns Hopkins. During that time, only Johns Hopkins researchers will be able to link your health information to the work done with these cells.
- When our study is complete, the iPS cells and remaining MKs will be transferred to a protected specially designed storage facility at the National Institutes of Health (NIH) where the cells may be used by other researchers. However, any further research will be restricted to the creation of MK cells, platelets and cells that may specifically have an impact on blood diseases, coronary heart disease, and stroke. No other kind of cell will be allowed under the terms of this consent to be created from your cells.
- At the time the cells are transferred to the NIH, all identifiers that link to you or your family will be removed, and these cells will be totally anonymous.

What you should know about the stem cells and the MK blood cells that will be made in this study

- The cells created will be similar or identical to you genetically.
- The cells may be kept for many years but will not contain any identifiers that link them to you.
- Once your stem cell line is established, it can be grown in the laboratory indefinitely and cells may be frozen for storage or shared with researchers both inside and outside of Johns Hopkins for the study of that cell as described in this consent. These cells will never be injected into humans and will only be used in the laboratory for platelet function, blood disease, and cardiovascular disease,

and stroke research under the terms of this consent. Our research team will review this information with you in detail.

- Having such a cell line gives us an ongoing supply of a persons DNA. This means that a cell line continues after the person who donates a sample person dies.

How long will you be in the study?
You will be in this study for the time of your visit only, but your samples have no date for termination.

4. What are the risks or discomforts of the study?

Blood Draw: Taking blood may cause discomfort, bleeding or bruising where the needle enters the body. In rare cases, it may result in fainting. There is a small risk of infection

Confidentiality: There is the risk that information about you may become known to people outside this study.

We will limit the use of your cells when we transfer them to the NIH to be stored and used in other researchers. However, in spite of the best efforts of the research team, there may still be a chance that another researcher would extend beyond the restrictions that we will place on the use of these cells.

5. Are there risks related to pregnancy?

If you are pregnant, you may participate in the study six months after you deliver but may not give blood while you are pregnant. If you could be pregnant and not know it, we will perform a pregnancy test prior to taking the blood sample.

6. Are there benefits to being in the study?

There is no direct benefit to you from being in this study. If you take part in this study, you may help others in the future.

7. What are your options if you do not want to be in the study?

You do not have to join this study. If you do not join, your care at Johns Hopkins will not be affected.

8. Will it cost you anything to be in this study?

No.

9. Will you be paid if you join this study?

You will be given $100 by check for the onetime 90 minute to 2 hours study visit and be provided free parking.

10. Can you leave the study early?

- You can agree to be in the study now and change your mind later.
- If you wish to stop, please tell us right away.
- Leaving this study early will not stop you from getting regular medical care.
- If you leave the study early, Johns Hopkins may use or give out your health information that it already has if the information is needed for this study or any follow-up activities**.**

11. Why might we take you out of the study early?

There are no known conditions under which we would remove you from the study once you have donated blood. If we are unable to obtain the full amount of blood needed, you may be withdrawn from the study.

12. How will your privacy be protected?

Johns Hopkins has rules to protect information about you. Federal and state laws also protect your privacy. This part of the consent form tells you what information about you may be collected in this study and who might see or use it.

Generally, only people on the research team will know that you are in the research study and will see your information. However, there are a few exceptions that are listed later in this section of the consent form.

The people working on the study will collect information about you. This includes things learned from the procedures described in this consent form. They may collect other information including your name, address, date of birth, and other details.

The research team will need to see your information. Sometimes other people at Johns Hopkins may see or give out your information. These include people who review the research studies, their staff, lawyers, or other Johns Hopkins staff.

People outside of Johns Hopkins may need to see your information for this study. Examples include government groups (such as the Food and Drug Administration), safety monitors, other hospitals in the study and companies that sponsor the study.

We cannot do this study without your permission to use and give out your information. You do not have to give us this permission. If you do not, then you may not join this study.

We will use and disclose your information only as described in this form and in our Notice of Privacy Practices; however, people outside Hopkins who receive your information may not be covered by this promise. We try to make sure that everyone who needs to see your information keeps it confidential – but we cannot guarantee this.

The use and disclosure of your information has no time limit. You can cancel your permission to use and disclose your information at any time by calling the Johns Hopkins Privacy Officer at 410-735-6509 or by sending a letter to:

Johns Hopkins Privacy Officer
5801 Smith Avenue
McAuley Hall, Suite 310
Baltimore, MD 21209
Fax: 410 735-6521.

Please be sure to include the name of the principal investigator, the study number and your contact information.

If you do cancel your permission to use and disclose your information, your part in this study will end and no further information about you will be collected. Your cancellation would not affect information already collected in this study.

13. What treatment costs will be paid if you are injured in this study?

Johns Hopkins and the federal government do not have programs to pay you if you are hurt or have other bad results from being in the study. However, medical care at Johns Hopkins is open to you as it is to all sick or injured people.

- If you have health insurance: The costs for any treatment or hospital care you receive as the result of a study-related injury will be billed to your health insurer. Any costs that are not paid for by your health insurer will be billed to you.

- If you do not have health insurance: You will be billed for the costs of any treatment or hospital care you receive as the result of a study-related injury.

14. What other things should you know about this research study?

a. What is the Institutional Review Board (IRB) and how does it protect you?

The Johns Hopkins Medicine IRB is made up of:

- Doctors
- Nurses
- Ethicists
- Non-scientists
- and people from the local community.

The IRB reviews human research studies. It protects the rights and welfare of the people taking part in those studies. You may contact the IRB if you have questions about your rights as a participant or if you think you have not been treated fairly. The IRB office number is 410-955-3008. You may also call this number for other questions, concerns or complaints about the research.

b. What do you do if you have questions about the study?

Call the principal investigator**, Dr. Lewis C. Becker at 410-55-5998.** If you cannot reach the principal investigator or wish to talk to someone else, call the IRB office at 410-955-3008.

c. What should you do if you are injured or ill as a result of being in this study?

Call Dr. Lewis C. Becker at 410-55-5998, if you have an urgent medical problem related to your taking part in this study.

d. What happens to Data, Tissue, Blood and Specimens that are collected in the study?

Scientists at Johns Hopkins work to find the causes and cures of disease. The data, blood and specimens collected from you during this study are important to both this study and to future research.

If you join this study:

- You will not own the data, blood, or other specimens given by you to the investigators for this research.
- Both Johns Hopkins and any sponsor of this research may study your data, blood or other specimens collected from you.
- If data, blood, or other specimens are in a form that identifies you, Johns Hopkins may use them for future research only with your consent or IRB approval.
- You will not own any product or idea created by the researchers working on this study.
- You will not receive any financial benefit from the creation, use or sale of such a product or idea.

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e. What are the Organizations that are part of Johns Hopkins?

Johns Hopkins includes the following:

- The Johns Hopkins University
- The Johns Hopkins Hospital
- Johns Hopkins Bayview Medical Center
- Howard County General Hospital
- Johns Hopkins Community Physicians.
- Suburban Hospital
- Sibley Memorial Hospital

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15. What does your signature on this consent form mean?

Your signature on this form means that:

- you understand the information given to you in this form
- you accept the provisions in the form
- you agree to join the study

You will not give up any legal rights by signing this consent form.

WE WILL GIVE YOU A COPY OF THIS SIGNED AND DATED CONSENT FORM

_____

Signature of Participant Date

_____

Signature of Person Obtaining Consent Date

_____

Signature of Witness to Consent Procedures (optional unless IRB or Sponsor required) Date

NOTE: A COPY OF THE SIGNED, DATED CONSENT FORM MUST BE KEPT BY THE PRINCIPAL INVESTIGATOR; A COPY MUST BE GIVEN TO THE PARTICIPANT; AND, IF APPROPRIATE A COPY OF THE CONSENT FORM MUST BE PLACED IN THE PARTICIPANT'S MEDICAL RECORD

ONLY CONSENT FORMS THAT INCLUDE THE JOHNS HOPKINS MEDICINE LOGO SHOULD BE USED TO CONSENT RESEARCH PARTICIPANTS. IF THIS CONSENT FORM DOES NOT HAVE A JOHNS HOPKINS MEDICINE LOGO, DO NOT USE IT TO CONSENT RESEARCH PARTICIPANTS.