University of Pennsylvania
Research Participant
Informed Consent Form and HIPAA Authorization

Protocol Title:	**Pilot Study of Mature Dendritic Cell Vaccination for Resected Hypermutated Colorectal Cancer**
Principal Investigator:	**Kim Reiss-Binder, MD** Department of Medicine University of Pennsylvania School of Medicine Philadelphia, Pennsylvania 19104 [redacted]
Emergency Contact:	**Ask for Oncologist on Call** [redacted]

Why am I being asked to volunteer?

You are being invited to participate in a research study because you have early-stage colorectal cancer that has been surgically removed. Your participation is voluntary which means you can choose whether or not you want to participate.

Before agreeing to participate in this research study, it is important that you read the following explanation of the proposed procedures and how long you will be in the study. This document describes the purpose, procedures, benefits, risks, discomforts and precautions of the study. It also describes the alternative procedures that are available to you and your right to withdraw from the study at any time.

We are asking that you participate in a research study. When you take part in a research study, you and the study doctor must follow a set plan called the "study protocol." This is different from receiving care outside of the research study. When you receive medical care from your own doctor, he or she develops a plan of care just for you and your individual needs. When participating in the research study, the study doctor usually cannot adjust the plan for you as he needs to follow the study protocol. However, this research plan includes steps to follow if you are not doing well. It's important to understand that a clinical trial is an experiment. By its nature, that means the answer to the research question is still unknown.

Please take time to read the following information carefully. You may wish to discuss it with your family, friends, and your personal doctor (i.e., your family doctor or primary care doctor). If you have any questions, you may ask your study doctor and/or the research team for more information. Take time to decide whether or not you wish to take part. If you decide to participate, you will be asked to sign this form. If you decide to participate, you can change your mind at any time and withdraw from the study without giving a reason.

What is the purpose of this study?

This is a research study designed to evaluate the effects (good and bad) of giving you a vaccine after your colorectal cancer has been surgically removed because it is possible that your cancer could return. The purpose of this study is to investigate a method of using dendritic cells (a kind

of white blood cell) as a vaccine to stimulate your own immune system to react to colorectal cancer cells in case they do return or to try to prevent them from returning.

Dendritic cells will be obtained from your blood through apheresis, a process very similar to donating blood. The isolated dendritic cells will be grown in the laboratory and exposed to proteins that are present on your colorectal tumor cells. After exposure, the dendritic cells will be collected and injected back into your body.

You will receive up to three dendritic cell vaccinations (or DC Vaccines), given about every 6 weeks. DC Vaccines will be given through a vein in your arm (iv or intravenously). The DC vaccines are experimental and have not been approved by the Food and Drug Administration (FDA). Similar DC vaccines are being tested in other ongoing human studies.

You will also receive a low dose of cyclophosphamide before your first vaccine dose. Cyclophosphamide is a type of chemotherapy, given to you via iv infusion (through a vein in your arm). It is being administered prior to your first vaccination as it may increase the immune response, by elimination of a certain type of immune cell called a regulatory T cell. Cyclophosphamide has been approved by the FDA for other types of cancer, but not for treatment of colorectal cancer. Its use in this study is considered investigational.

There is a planned DC vaccine dose for this research study. However, at this time, we do not know the best and safest DC vaccine dose. It is possible that a lower dose could be effective. If the planned study dose cannot be made, the study physicians may recommend giving you the lower DC vaccine dose that has been made if they feel it is safe and poses no additional risk to you. If you decide not to receive a lower DC vaccine dose than planned by the research study, you will no longer be able to participate in this research study. If you receive a DC vaccine dose that is lower than the planned study dose, you will undergo the same schedule of visits and procedures as participants who receive the planned study dose.

How long will I be in the research study?

If you choose to participate in this research study, your participation will last approximately one year. Your participation includes an active treatment phase which will last approximately 3-4 months. Thereafter, you will be followed every 3 months for up to 1 year after your first DC vaccine study for safety and to collect blood samples for research analysis.

How many people will participate?

Up to 12 patients will receive DC vaccines as part of this study at the University of Pennsylvania.

What am I being asked to do?

Procedures

Prior to taking part in this study, you and your doctor should discuss the current standard treatments for your cancer. The study doctor will ask you to read and sign this Informed Consent Form after all of your questions have been satisfactorily answered.

Once you decide to participate, you will have to undergo a screening process to determine if you are able to join the study. In order to determine if you are eligible to participate in this study, you will be required to undergo the following tests and evaluations:

Day	Part of Your Standard Medical Care	Study Procedures
Screening	No	• Research blood to check your immune system (about 3 ½ tablespoons) • Blood test to evaluate your cancer (about 2 teaspoons) • Blood (about 1 teaspoon) or urine to test for pregnancy if you are female and able to bear children
	Yes	• Review of current medical conditions and list of medications • Physical examination including an assessment of your vital signs • Routine Blood Tests - to assess your blood cell counts, blood chemistry levels. This requires a blood draw of about ½ tablespoon.

Once you have completed the screening visit, your study doctor will determine whether it is safe for you to enter the study or not.

- Make sure you tell the study staff about any medications you are taking during the research study. This includes prescriptions drugs, over-the-counter medicines, natural or herbal medicines, alternative medicines and vitamins. This is very important.
- Tell your study doctor or study staff if you have any unusual symptoms any time, even outside the visit period.

Pre-Treatment Phase

The following procedures will occur prior to your first vaccination:

Day	Part of Your Standard Medical Care	Study Procedures
Pre-Treatment Phase		
Approximately Within 2 Weeks Before Your First DC Vaccine	No	The following procedures will be done to evaluate your health status before receiving study treatment: • Review of current medical conditions and list of medications • Physical examination including an assessment of your vital signs • Routine Blood Tests - to assess your blood cell counts, blood chemistry levels, and how fast your

Day	Part of Your Standard Medical Care	Study Procedures
		blood clots. This requires a blood draw of about 1 ½ tablespoons. • Blood (about 1 teaspoon) or urine to test for pregnancy if you are female and able to bear children
Apheresis Within 7 Days Before Your First DC Vaccine	No	You will undergo apheresis approximately 1 week prior to your DC vaccine infusion. Apheresis will take place in the apheresis unit and is done to collect the cells that will be used to make the DC vaccine. An apheresis unit is a place where patients who need specific components of their blood removed from their bodies go to have this procedure performed. This apheresis visit will take ~5 hours in total and the apheresis procedure will take ~ 4 hours to complete. If the veins in your arms are not adequate for the procedure, a special apheresis catheter may be inserted into the large vein (intravenously or IV) in your neck for the collection. Placement of this IV catheter involves putting a small, short plastic tube in your vein. Additional assessments may be performed as part of the apheresis procedure as per apheresis unit standard procedures. If we are unable to collect enough cells from this apheresis procedure to make all three vaccine doses, you will be asked to undergo another apheresis procedure during the treatment phase of this study. This will not require an additional procedure. The post-vaccine apheresis procedure would be performed earlier to ensure enough cells are available to make the required doses. If there are any cells left over after making the required doses, these cells will be banked for research purposes. You will also undergo the following: • Review of symptoms/side effects and list of medications

Cyclophosphamide

Day	Part of Your Standard Medical Care	Study Procedures
Chemotherapy Visit Approximately 3-4 Days Prior to Your 1st DC Vaccine	No	You will receive a single, low dose of chemotherapy about 3-4 days before your first vaccine dose. The type of chemotherapy you will receive is called cyclophosphamide. Chemotherapy is given prior to your first DC vaccine as it may increase the immune response, by elimination of a certain type of immune cell called a regulatory T cell. Cyclophosphamide is given intravenously (through a vein). You may also receive medications to prevent potential side effects of the chemotherapy at your physician's discretion. The entire visit will last about 4 hours. At this chemotherapy visit, a review of your current medical conditions, list of medications, and symptoms/side effects will be performed. Additional tests/procedures may also be performed at this visit in accordance with the chemotherapy unit's standard procedures.

Treatment and Primary Follow-up Phase

Vaccination:
Some of the vaccine infusions listed below may be delayed or canceled. It is very important that you come in for all study-required visits, even if your infusions are missed or delayed. Your study doctor will determine whether or not it is appropriate for you to make up any missed infusions.

Day	Part of Your Standard Medical Care	Study Procedures
Day 1 1st DC Vaccine	No	Three to four days after you have received cyclophosphamide, you will receive your first DC Vaccine (Day 1). The DC vaccine will be given back to you through a vein in your arm (intravenously). The vaccine infusion will take less than 15 minutes. After your infusion, you will need to remain in the clinic for 2 hours to be observed and have your vital signs monitored.

Day	Part of Your Standard Medical Care	Study Procedures
		You will be allowed to go home after your infusion if you feel well and have not experienced unexpected reactions to the infusion. You will also undergo the following procedures: • Review of current medical conditions, list of medications, and symptoms/side effects • Physical examination and vital signs (temperature, blood pressure, heart rate, respiratory rate and blood oxygen levels) • Routine blood tests (about 1 ½ tablespoons)

Post-Vaccination Blood Draws (Starting After 1st DC Vaccine) and Apheresis

Day	Part of Your Standard Medical Care	Study Procedures
Day 1 (1st DC Vaccine)	No	• Research blood – collected to check your immune system (about 3 ½ tablespoons)
Subsequent DC Vaccine Doses	No	You will receive up to 2 additional DC vaccines, given approximately 6 weeks apart. • 2nd DC Vaccine: ~Day 43 • 3rd DC Vaccine: ~Day 85 Each DC vaccine will be given back to you through a vein in your arm (intravenously). The vaccine infusion will take less than 15 minutes. After your infusion, you will need to remain in the clinic for 30 minutes to be observed and have your vital signs monitored. You will be allowed to go home after your infusion if you feel well and have not experienced unexpected reactions to the infusion. You will also undergo the following procedures: • Review of current medical conditions, list of medications, and symptoms/side effects

Day	Part of Your Standard Medical Care	Study Procedures
		• Physical examination and vital signs (temperature, blood pressure, heart rate, respiratory rate and blood oxygen levels) • Routine blood tests (about 1 ½ tablespoons)
Apheresis 7-14 Days After Your Last DC Vaccine	No	7-14 days after your last DC vaccine, you will be asked to undergo another apheresis procedure. This additional collection is being done to collect cells for research analysis. This apheresis may be moved up to an earlier time point in the event that we are unable to collect enough cells from your first apheresis procedure to make all three of your DC vaccine doses. If there are any cells left over after making the required doses, these cells will be banked for research purposes. At this visit, a review of your current medical conditions, list of medications, and symptoms/side effects will be performed. Additional tests/procedures may also be performed at this visit in accordance with the apheresis unit's standard procedures. You will also undergo the following procedures: • Review of list of medications and symptoms/side effects

End of Treatment Visit

Day	Part of Your Standard Medical Care	Study Procedures
30 Days After Your Last DC Vaccine	No	After your last dendritic cell treatment, you will undergo the following tests/procedures as part of your End-of-Study Treatment visit. This visit is targeted to occur about 30 days after your last DC vaccine. The following procedures will be performed at this visit: • Research blood draws (about 3 ½ tablespoons) will be collected for research analysis (including tests for immune response generated by the vaccine).

Day	Part of Your Standard Medical Care	Study Procedures
	Yes	• Review of current medical conditions, list of medications, and symptoms/side effects • Physical examination and vital sign assessment. • Routine blood tests (about 1 ½ tablespoons)

Post DC Vaccine Follow-up

Day	Part of Your Standard Medical Care	Study Procedures
Every 3 Months Beginning 6 Months After Your 1st DC Vaccine	No	• Review of symptoms/side effects • Research blood draws (about 3 ½ tablespoons) will be collected for research analysis (including tests for immune response generated by the vaccine). These samples will be collected every 3 months for up to one year. In addition, if you undergo a biopsy as part of your routine care while you are on study, a sample of this tumor tissue will also be collected for research purposes.

End-of-Study Visit

Your participation in this study will end about one year after your first DC Vaccine infusion after all research blood collection has been completed.

What are the possible risks or discomforts?

As of September 2021, 20 subjects have received DC Vaccine infusions as part of this and other studies, and 6 subjects have received a similar type of DC Vaccine as part of other studies. The list of side effects below contains the most common side effects in the small number of people that have received the dendritic cells to date. This research may involve risks that are currently unforeseeable, so tell your doctor if you are experiencing any problems. If you see a doctor other than your study doctor, please let them know that you are involved in a research study. It is very important that you contact your study doctor immediately at any signs of fever or other new abnormal symptoms. Treatment on this research study may have risks we do not know about and may require you to go into the hospital so the study team can monitor these side effects.

Some risks described in this consent document, if severe, may cause death.

Risks of Colorectal Cancer Vaccine:
Likely: skin rash, fatigue, nausea, pain

Less Likely: rigors/chills, cough, skin changes, abnormal liver function tests which may cause jaundice (yellowing of the skin and eyes), diarrhea, anorexia (loss of appetite), headache, pruritis/itching, changes in your calcium and glucose (i.e. electrolyte) blood levels, changes in your blood counts which may increase your risk of infections

The decision to include you in this study is based on testing conducted in a research laboratory using tests that are not used for standard clinical care and therefore they are considered investigational.

Risks of Cyclophosphamide:

Likely: Nausea

Less Likely: Vomiting, anorexia (loss of appetite), diarrhea, changes in your calcium and glucose (i.e. electrolyte) blood levels

Rare: Blood in urine, low blood cell counts which may lead to infection**,** headache, facial flushing, and rash

Risks associated with blood draws (uncommon):
Occasionally there are risks associated with blood draws such as bruising, swelling, black and blue marks, fainting and/or infection at the site. You may also experience a decrease in hemoglobin and hematocrit (red blood cell number, called anemia) from having blood drawn frequently. Approximately 31 ½ tablespoons (about 2 cups) of blood will be drawn for research purposes during this research study over the period of one year.

Risks associated with intravenous (IV) apheresis catheter:
Likely: Pain or discomfort at the catheter insertion site.

Less Likely: Bleeding at the site, injury in the blood vessel, entrance of air into the vein (air embolus), and injury to the lung (pneumothorax).

Rare: Infection of the blood stream, inflammation of the vein (phlebitis) and development of blood clots (thrombosis).

Risks associated with Apheresis (uncommon):
Side effects that can occur during peripheral mononuclear cell collection include nausea, vomiting, fainting or dizziness, seizures, skin rash, hives, flushing (redness and warmness of the skin, usually the face), blood loss, and infection. Tingling of the lips, muscle cramping and, very rarely, changes in the heart rhythm can occur. These can be prevented or made milder by giving calcium supplements, either by mouth or in the vein, also called intravenous (IV). Very rarely, (less than 1 in 1,000 procedures), clotting may occur in the apheresis machine or in a patient and is potentially life-threatening. To reduce the risk of clotting, a drug called ACD (acid-citrate-dextrose) will be

used. This drug may increase the risk of bleeding and may cause temporary tingling of the lips and limbs, muscle cramping, seizures, or changes in the heart rhythm. After the apheresis procedure you may experience temporary discomfort, including irritation, swelling or bruising at the place where the needle was inserted into your vein to collect the blood. Apheresis can also occasionally cause: nausea, vomiting, fainting, seizures, blood loss, infection, skin rash, flushing, hives, numbness and tingling, or swelling of your feet and ankles.

Risks of Genetic Testing:
Additional research performed using your blood and tissue samples may include genetic testing. Even without your name or other identifiers, your genetic information is unique to you. The researchers believe the chance that someone will identify you is very small, but the risk may change in the future as people come up with new ways of tracing information.

There can be a risk in knowing genetic information. New health information about inherited traits that might affect you or your blood relatives could be found during a research study. Even though your genes are unique, you share some of the same genes with your blood relatives. Although we are not able to know all of the risks from taking part in research on inherited traits, we believe that the risks to you and your family are very low, because your samples will be coded. Research results will not be returned to you or your doctor.

Very rarely health or genetic information could be misused by employers, insurance companies, and others. For example, it could make it harder for you to get or keep a job or insurance, or life insurance companies may charge a higher rate based on this information. We believe the chance these things will happen is very small, but we cannot make guarantees.

A federal law (Genetic Information Non-Discrimination Act, GINA) helps reduce the risk from health insurance or employment discrimination. The law does not include other types of misuse by life insurance or long-term care insurance. If you want to learn more about GINA, you can find information about it on the internet or ask the study staff.

Reproductive Risks
The effects of dendritic cells on pregnancy and child development are unknown. Therefore, there could be serious harm to unborn children (or children who are breastfeeding) and it could also jeopardize the health of the mother. If you have not already spoken to your treating physician about options for fertility preservation (which can include collection of eggs or sperm), you and your study doctor may discuss this in more detail.

If you are capable of becoming pregnant, you will undergo a serum pregnancy test prior to entry into the research study and a urine or serum pregnancy test prior to the dendritic cell infusion. If you are found to be pregnant or breastfeeding at that time you will not be allowed to participate in the research study.

If you are a female participant in the study and are capable of becoming pregnant, you MUST use at least one method of birth control during the entire time you participate in the study (about 12 months). If you are male, you MUST use at least one method of birth control during the entire time

you participate in order to avoid impregnating a female.

Examples of medically acceptable birth control methods include any of the following:

Female Birth Control Methods

- Total abstinence (no sexual relations)
- Female sterilization- surgical removal of both ovaries (woman's reproductive system that stores and releases eggs for fertilization and produces female sex hormones), or tubal ligation (having your "tubes tied") at least six weeks prior to signing this consent.
- Condoms with or without a spermicidal agent
- Diaphragm or cervical cap with spermicide
- A hormonal or non-hormonal intrauterine device (IUD)
- Hormonal based contraception (including the birth control pill, vaginal rings, etc.)

Male Birth Control Methods

- Total abstinence (no sexual relations)
- Male sterilization (i.e. vasectomy)
- Condoms with or without a spermicidal agent

If you do become pregnant or suspect you may be pregnant, you must tell the study doctor immediately and consult an obstetrician or maternal-fetal specialist. If you become pregnant while you are on this research study, your study doctor will continue to follow your pregnancy until outcome to monitor your safety.

If you are a male participant and your partner becomes pregnant, you must tell the study doctor as soon as possible. Your partner will be asked to provide consent to follow their pregnancy until outcome for safety purposes.

What are the benefits of this study?

You may or may not benefit from being in this study. However, we hope that information learned from this study will help patients with colorectal cancer in the future.

What other treatment options are there?

Before you decide whether or not to be in this study, your doctor will discuss the other options that are available to you. Instead of being in this study, you could:

- get treatment or care for your cancer without being in a research study
- take part in another research study
- get no treatment
- get comfort care, also called palliative care. This type of care helps reduce pain, tiredness, appetite problems and other problems caused by the cancer. It does not treat the cancer directly, but instead tries to improve how you feel. Comfort care tries to keep you as active and comfortable as possible.

Will I have to pay for anything?

The research study will cover the cost of research related tests, procedures and study visits. There is no cost for the investigational DC vaccines that you will receive during your participation. There will also be no cost to you for IV cyclophosphamide or its administration.

This research study also requires that you receive certain standard medical tests and examinations during the course of the research study. These exams, tests or procedures may or may not be part of routine cancer care, and may be done even if you were not in this research study. The costs of these standard tests and examinations will be the responsibility of you and/or your health insurance provider. Some health plans will not pay these costs for people taking part in studies. Check with your health plan or insurance company to find out what they will pay for.

Taking part in this research study may or may not cost your insurance company more than the costs of getting regular cancer treatment. You are expected to pay for any costs not paid by your insurance provider (including co-pays and deductibles).

Will I be paid for participating?

You will not be paid for being in this research study.

Who is funding this study?

The Parker Institute for Cancer Immunotherapy (PICI) and the National Institutes of Health (NIH) are funding this research study. This means that the University of Pennsylvania is receiving payments from PICI and NIH to support the activities that are required to conduct the study.

What happens if I am injured or hurt during the research study?

If you have a medical emergency during your participation on this study, you should go to the nearest emergency room. You should contact the Principal Investigator or Emergency contact listed on page one of this form. You may also contact your own doctor, or seek treatment outside of the University of Pennsylvania. Be sure to tell the doctor or his/her staff that you are in a research study being conducted at the University of Pennsylvania. Ask them to call the telephone numbers on the first page of this consent form for further instructions or information about your care.

We will offer you the care needed to treat injuries directly resulting from taking part in this research. We may bill your insurance company or other third parties, if appropriate, for the costs of the care you get for the injury, but you may also be responsible for some of them. There are no plans for the University of Pennsylvania to pay you or give you other compensation for the injury.

Financial compensation for such things as traveling, parking, lost wages, disability or discomfort due to injury is not available.

You will not lose any of your legal rights when you sign this form.

When is the research Study over? Can I leave the Research Study before it ends?

This research study is expected to end after all participants have completed all visits, and all information has been collected. Your participation in this research study may also be stopped at any time by your physician, the study Sponsor or the Food and Drug Administration (FDA) without your consent because:

- The Primary Investigator feels it is necessary for your health or safety. Such an action would not require your consent, but you will be informed if such a decision is made and the reason for this decision.
- You have not followed study instructions.
- The Sponsor, the study Principal Investigator, or the Food and Drug Administration (FDA) has decided to stop the study.

If you decide not to participate, you are free to leave the research study at any time. Withdrawal will not interfere with your future care.

Who can see or use my information? How will my personal information be protected?

We will do our best to make sure that the personal information obtained during the course of this research study will be kept private. However, we cannot guarantee total privacy. Your personal information may be given out if required by law. Only the minimum necessary data will be provided to the people/entities named below and when possible participants will be identified with a unique study identification number. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used. This study is being overseen by the Food and Drug Administration (FDA), who may also review your research records.

Electronic Medical Records and Release of Study Related Information

An Electronic Medical Record (EMR) is an electronic version of the record of your care within a health system. An EMR is simply a computerized version of a paper medical record.

If you have never received care within Penn Medicine and are participating in a University of Pennsylvania research study that uses Penn Medicine healthcare-related services, an EMR will be created for you for the purpose of maintaining any information produced from your participation in this research study. The creation of this EMR is a requirement of your participation in this research study. In order to create your EMR, the study team will need to obtain basic information about you that would be similar to the information you would provide the first time you visit a hospital or medical facility (i.e., your name, the name of your primary doctor, the type of insurance you have). If you have been a patient at Penn Medicine in the past, information from your research participation will be added to your existing medical record.

What may be placed in the EMR?
Information related to your participation in the research (e.g., laboratory tests, notes from your physician, imaging studies, and clinical procedures, etc.) may be placed in your EMR maintained by Penn Medicine.

Once placed in your EMR, your information may be accessible to appropriate Penn Medicine workforce members that are not part of the research team. Information within your EMR may also be shared with others who are determined by Penn Medicine to be appropriate to have access to your EMR (e.g., health insurance company, disability provider, etc.).

Penn Medicine also participates in automated information sharing through Health Information Exchanges (HIEs). HIEs securely share parts of your electronic health record, including research information, with other healthcare organizations involved in your care. This information is shared to improve the quality, safety and efficiency of your healthcare. To request that your health information not be shared through HIEs, please call 215-662-4484.

Will I, as a subject, have access to research related information within the EMR?

The 21st Century Cures Act requires healthcare institutions to allow patients increased access to their electronic medical record. As part of your participation in this research, you will have access to research related information within your EMR through Penn Medicine's patient portal – called MyPennMedicine (MPM).

Results that may be placed in the medical record
Your medical record may include results from laboratory tests, imaging studies, and clinical procedures, etc (or any results would have been placed in the medical record, regardless of research participation). Results placed in the medical record are part of the designated record set and you have a right to review these results per HIPAA regulations.

Results that may not be placed in the medical record
Results from biospecimen testing conducted in a laboratory that is not part of the HIPAA covered entity OR results from testing conducted in a non-CLIA certified laboratory (i.e., the results would not have been placed in the medical record as part of clinical care).

Will I receive the results of research testing?

Most tests done in research studies are only for research and have no clear meaning for your routine medical care. Research results will not be returned to you because they would not be relevant to your routine medical care.

Will information about this study be available to the public?

A description of this clinical trial will be available on http://www.clinicaltrials.gov and included on University of Pennsylvania websites. These postings will not include information that can identify you.

What information about me may be collected, used or shared with others?

The following personal health information will be collected, used for research, and may be disclosed during your involvement with this research study:

- Name, address, telephone number, e-mail address, date of birth
- Personal and family medical history, allergies; prior hospital admission/discharge information
- Current and past medications or therapies
- Medical record number
- Information from a physical examination that generally also includes blood pressure reading, heart rate, breathing rate and temperature
- Results of tests and procedures you will undergo during this research study as described in this informed consent form

Why is my information being used?

Your information is used by the research team to contact you during the research study. Your information and results of tests and procedures are used to:

- do the research
- oversee the research
- to see if the research was done right
- evaluate and manage research functions.

Where may my information be stored?

Information related to your participation in clinical research will be contained in a clinical trial management system (CTMS). A clinical trial management system (CTMS) is used to register your information as a participant in a study. This allows for your research data to be entered and stored for the purposes of study operational and financial applications and other activities required as part of the conduct of the research. Once placed in the CTMS your information may be accessible to other authorized personnel at Penn Medicine that support research operations. Your information may also be held in other research databases.

Who may use and share information about me?

The following individuals may use or share your information for this research study:

- The Principal Investigator and the study team
- Other authorized personnel at Penn Medicine and the University of Pennsylvania, including offices that support research operations
- Other research personnel with access to the databases for research and/or study coordination and as otherwise approved by the IRB

As part of your participation in this study, we may need to contact you via the Penn Patient Portal, phone or email/mail to facilitate scheduling, send you appointment notes or send you information

about your participation in the study. Email communications are often not secure and may be seen by others as a result. By agreeing to participate in this study, you accept this potential risk. If you wish for us to use a different means to communicate with you during the course of the trial, please discuss this with the research team and alternative methods can be arranged.

Who, outside of Penn Medicine, might receive my information?

- The funding sponsor, National Institutes of Health (NIH), and its authorized agents
- The funding sponsor, Parker Institute for Cancer Immunotherapy (PICI), and its authorized agents
- ExamOne – a company that may be used to provide in-home laboratory services as part of your participation in this study.

Regulatory and safety oversight organizations

- Government representatives (including the Office for Human Research Protections) to complete federal or state responsibilities
- The U.S. Food and Drug Administration
- Your primary care physician if a medical condition that needs urgent attention is discovered
- Information about your participation in this study may be documented in your health care records and be available to your health care providers who are not part of the research team.
- The last four digits of your social security number may be used in hospital or University systems to track billing information for research procedures

Once your personal health information is disclosed to others outside Penn Medicine, it may no longer be covered by federal privacy protection regulations.

The Principal Investigator or study staff will inform you if there are any additions to the list above during your active participation in the trial. Any additions will be subject to Penn Medicine procedures developed to protect your privacy.

How long may Penn Medicine use or disclose my personal health information?

Your authorization for use of your personal health information for this specific research study does not expire. Your information may be held in a research database. However, Penn Medicine may not re-use or re-disclose information collected in this research study for a purpose other than this research study unless:

- You have given written authorization
- The University of Pennsylvania's Institutional Review Board grants permission
- As permitted by law

Can I change my mind about giving permission for use of my information?

Yes. You may withdraw or take away your permission to use and disclose your health information at any time. You do this by sending written notice to the investigator for the research study. If you

withdraw your permission, you will not be able to stay in this research study.

What if I decide not to give permission to use and give out my health information?

Then you will not be able to be in this research study.

What if new information becomes available about the study?

During the course of this research study, we may find more information that could be important to you. This includes information that, once learned, might cause you to change your mind about being in the research study. We will notify you as soon as possible if such information becomes available. In order to provide this information to you, you must provide your current address and telephone number to the study doctor and must update this information so that the research staff will be able to contact you to give you any new information learned from this research study in the future.

What may happen to my information and samples collected on this study?

As outlined above, you will have research samples (or specimens) collected as part of your participation in this study. Depending on the type of specimen, these samples may be labeled with identifiable information. It is possible that your specimens may be used to establish products that could be patented, licensed, or sold, which could make money for others. If this happens, there are no plans to tell you or provide financial compensation to you or your family. Most uses of biospecimens do not lead to commercial products or profit to anyone.

Whole genome sequencing may be conducted on your samples as part of the planned study analysis. Whole genome sequencing involves analyzing your entire personal genetic code. Please refer to the risks section of the consent for the risks of genetic testing.

<u>Future Use of Data and Specimens</u>

Blood, remaining unmanufactured cells (from your apheresis collections), unused manufactured CAR T cells or other samples obtained from you while you are participating in this study will be stored indefinitely and used for future research. Your study data and samples may be shared with other researchers within Penn, or other research institutions, as well as with for-profit pharmaceutical or biotechnology companies. There are no plans to tell you about any of the specific testing that will be done. This future research may include genetic testing and/or whole genome sequencing. Whole genome sequencing involves analyzing your entire personal genetic code. It is possible that you may have chosen not to participate in these future research studies, if you had been approached for participation. Please refer to the risks section of the consent for the risks of genetic testing.

You will not be given the results of any future testing performed on your samples.

You will also not directly benefit from any future research with your specimens. However, it is

possible this research may help others by improving our understanding of your disease and possible treatments.

There is also a risk of breach of confidentiality (unintentional release of your information). We will do our best to make sure that this does not happen. However, we cannot guarantee total privacy. We will protect your confidentiality during storage and sharing by using coded specimens. Coded means that all direct identifiers (name, initials, medical record numbers) have been removed. However, your samples will still include your unique subject identification number and may be linked back to information/data that was collected from you as part of this study (i.e., disease response, safety, diagnosis, etc). However, the information shared with other researchers will also be coded. It will not be possible for future researchers to identify you. The future use of your samples only applies to the samples collected on this study.

As part of your consent to participate in this study, you are agreeing to the use of your samples as outlined above. If you have any questions about the storage of your samples, or would like to withdraw your permission to use and store these samples at any time, please contact the study doctor, Dr. Kim Reiss-Binder at ([redacted]. However, any samples that have already been used for research purposes will be retained. After all research analysis on these samples is complete, these samples may be destroyed at any time without notice.

Genomic Data Sharing

Genomic studies examine genetic differences in the entire human genome (the complete set of human genes) and the association between these genetic differences and health conditions. As this is an NIH-funded study, we are required to send this data to a NIH designated data repository that includes all kinds of genomic data from studies funded by the NIH.

The aim of collecting this information is to look for genetic connections that may:

- Increase the likelihood of getting a certain disease (such as asthma, cancer, diabetes, heart disease or mental illness) or a condition (such as high blood pressure or obesity)
- Affect the progress of a certain disease or condition
- Affect treatments (medicines, etc) that work for certain diseases in some people, but not others

The data that is shared will not include any direct identifiers (such as your name), and will be coded. The key to this code, which links your data back to your identifiers, will not be shared. The repository is a controlled-access repository. Controlled-access data is only available to researchers and companies who apply to the NIH. The NIH will review data requests for scientific merit and for methods to protect data and methods to ensure data will be used for the approved purpose. We will not know what types of health-related research will be done with the data that are sent to the repository.

There may be risks to your privacy and the privacy of your relatives from storing your information in the repository. Although the NIH takes measures to protect privacy, we do not know how likely it is that your identity could be re-connected with your genetic and health information. If your genetic information were re-identified, personal information about you, your health and your

disease could become known to others. This could present unknown risks. Current federal law will help protect you from genetic discrimination in health insurance and employment. Please also refer to the risks of the consent for the risks of genetic testing for additional information.

There is no direct benefit to you from placing your genetic information in the repository. However, allowing researchers to study your genetic information may lead to a better understanding of how genes affect health, therefore may help other people in the future.

We may also be required to share the results of genetic research, known as genomic summary results (GSR), at the time of publication or presentation. If required, these results will be placed in a special database. Depending on the publication/presentation, this database may be restricted to limited individuals who receive appropriate permissions to view the data, but this may also become publicly available. The data that is shared will not include any direct identifiers (such as your name), and will be coded. The key to this code, which links your data back to your identifiers, will not be shared.

Who can I call with questions, complaints or if I'm concerned about my rights as a research participant?

If you have questions, concerns or complaints regarding your participation in this research study or if you have any questions about your rights as a research participant, you should speak with the Principal Investigator listed on page one of this form. If a member of the research team cannot be reached, or you want to talk to someone other than those working on the research study, you may contact the Office of Regulatory Affairs with any concerns or complaints at the University of Pennsylvania by calling (215) 898-2614.

When you sign this form, you are agreeing to take part in this research study. This means that you have read the consent form and your questions have been answered. Your signature also means that you are permitting Penn Medicine and the University of Pennsylvania to use your personal health information collected about you for research purposes within our institution. You are also allowing the Penn Medicine and the University of Pennsylvania to disclose that personal health information to outside organizations or people involved with the operations of this research study.

A copy of this consent form and Research Participant HIPAA Authorization describing your confidentiality and privacy rights for this research study **will be given to you.** By signing this document you are permitting the School of Medicine to use and disclose personal health information collected about you for research purposes as described above.

Name of Participant	Signature of Participant	Date

Name of Person Obtaining Consent	Signature of Person Obtaining Consent	Date