Dietary Biomarkers Intervention Core
NCT05616585
Phase 2 Dose Response

HARVARD Human Research Protection Program

Permission to Take Part in a Human Research Study

Protocol Title: Dietary Biomarkers Development Center at Harvard University: Intervention Core- Phase 2 Dose Response
Principal Investigator: Dr. Frank Sacks overall study PI at Harvard T.H. Chan School of Public Health; Dr. Jonathan Williams site PI at Mass General Brigham
Description of Study Population: Healthy free-living adults 18+
Version Date: 09/11/24

Key Information

The following is a short summary of this study to help you decide whether or not to participate. More detailed information is listed later on in this form.

Why am I being invited to take part in a research study?

We have invited you to take part in a research study because you are a healthy adult 18 years or older.

What should I know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You may discuss your decision with your family, your friends and/or your doctor.
- You can ask all the questions you want before you decide.

Why is this research being done?

The purpose of this research is to measure and understand the concentrations, fluctuations, and movement of specific foods through the body over time. This study will identify dietary intake biomarkers. In other words, we will study the body's (absorption, digestion, uptake) responses to 10 paired foods at 3 different dose levels (high, medium, zero). The 10 test foods include soybeans, chicken, beef, salmon, whole wheat bread, oats, potatoes, corn, cheese, and yogurt. The body's response to a pair of test food will be measured over three separate 8 day-controlled feeding periods. During each feeding period a pair of test food will be consumed, as part of a regular diet, in high, medium, and zero amounts. During the feeding periods all meals, snacks, and most beverages are provided by researchers.

Biomarkers can be used to validate how well a person follows a diet. They are an objective measure of what you eat and how much you eat. Biomarkers include vitamins, minerals, fats, calories, and proteins that are found in your blood and urine. After eating the test food in controlled amounts, we can then measure how your body breaks down that test food over time. Study findings will provide insight into how biological measures of diet can be used to assess dietary intake in large research studies. It is of great public health importance to discover and develop objective methods dietary assessment.

How long will I take part in this research?

Once enrolled in the study, your participation lasts for about 1 month or the time it takes to complete 3 feeding periods each lasting about one week. During this time, we will ask you to make 12 ambulatory study visits at BWH-CCI.

What will I be asked to do?

More detailed information about the study procedures can be found under the *"What can I expect if I take part in this research*?" section.

- You will complete physical measurements such as height and weight and your blood pressure will be measured.
- You will answer questionnaires about your activity, medical history, and diet.
- You will complete a screening blood draw for eligibility about 20 ml or 1 Tablespoon.
- Complete a 2 day run-in (preparation diet) where all meals and snacks are provided for a total of 6 regular meals.
- The test food you will eat, will be one of the following pairings: beef/whole wheat bread; chicken/potato; salmon/corn; cheese/soy; yogurt/oats.
- You will eat the prescribed diet of the test foods at three dose levels (high, medium, zero). All meals and snacks are provided for 6 days.
- You will come into the Brigham and Women's Hospital-Clinical Center of Investigation (BWH-CCI) to pick up meals and to complete specimen collections of blood and urine.
- You will complete 3 blood draws during the study. Each blood draw is 6ml or about 1.5 teaspoon.
- You will provide a stool sample at the beginning and end of each feeding period for a study total of 6 stool samples.
- You will provide a urine sample at the screening visit, at the end of each feeding period. Some samples will be collected at home.
- The total duration of your participation is about one month or the time it takes to complete all 3 test food dose levels.

Is there any way being in this study could be bad for me?

More detailed information about the risks of this study can be found under the *"What are the risks and possible discomforts?"* section.

The potential risks to you are minimal as you will be eating commonly consumed foods. You may feel discomfort or experience lightheadedness, fainting, or bruising with blood collection or discomfort providing urine and stool samples. You may experience some mild discomfort or feel inconvenienced answering study questions, providing your physical measurements, or completing food records. Every research study involves some risk to your confidentiality. It's possible that other people could find out you were in the study or see your study information, but we will take every step to keep this from happening.

Will being in this study help me in any way?

We cannot promise any benefits to you or others from your taking part in this research. Possible benefits may include study meals. The potential benefits to society may be large. Study findings will help us discover and develop objective methods of dietary assessment.

What happens if I do not want to be in this research?

Participation in research is voluntary. You can decide to participate, not to participate, or stop participation at any time without penalty or loss of benefits to which you are otherwise entitled. Instead of being in this research study, your choices may include not participating.

Detailed Information

To follow, please find more detailed information about this study than already provided above.

About this consent form

Please read this form carefully. It provides important information about participating in research. You have the right to take your time in making decisions about participating in this research. If you have any questions about the research or any portion of this form, you can ask us at any time. If you decide to participate in this research, you will be asked to sign this form. A copy of the signed form will be provided to you for your record.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team.

- If you have questions about the study, scheduling appointments, study visits, call the Main Office at [redacted] (Monday-Friday (8-5).
- Dr. Jonathan Williams is the person in charge of this research study at Mass General Brigham. He can be reached at [redacted].
- Dr. Frank M. Sacks is the person in charge of this research study. He can be reached at [redacted]

This research has been reviewed by the Harvard Longwood Campus Institutional Review Board (IRB). If you wish to speak with someone from the IRB, you may contact the Office of Regulatory Affairs and Research Compliance (ORARC) at 617-432-2157 (or toll-free at 1-866-606-0573) or at irb@hsph.harvard.edu for any of the following:

- If your questions, concerns, or complaints are not being answered by the research team,
- If you cannot reach the research team,
- If you want to talk to someone besides the research team,
- If you have questions about your rights as a research participant, or
- If you want to get information or provide input about this research.

Participation is voluntary

You are invited to take part in this research because you are a healthy adult 18 years or older. It is your choice whether or not to participate. If you choose to participate, you may change your mind and leave the study at any time. Refusal to participate or stopping your participation will involve no penalty or loss of benefits to which you are otherwise entitled.

How many people will take part in this research?

About 75-100 people will take part in this phase of the research.

What can I expect if I take part in this research?

For your convenience, a table summarizing the study visits and outlining the study procedures that will happen at each visit is include at the end of the consent form.

As a participant, you will be expected to complete the following:

Pre-screening phone call (15 minutes): The phone prescreen collects information to determine age eligibility (18+ years), medications/supplements or conditions that my affect metabolism, willingness to eat the prescribed diet, identify food aversions and allergies

Screening Visit: (90 minutes)

Location of screening: Brigham and Women's Hospital Center for Clinical Investigation (BWH-CCI)
221 Longwood Avenue, Boston, MA 02115

- Informed consent to participate.
- Staff members measure height, weight, and blood pressure.
- We will ask you questions about your recent physical activity, demographics, medications and supplements, medical and social history (e.g., family history, socioeconomic variables) and screen for food allergies and tolerance.
- We will draw a blood sample from a vein in your arm to measure for routine blood tests. About 20 ml or 1 Tablespoon. This can be repeated once if first values would exclude you.
- We will ask you to provide a urine sample.
- We will assess your usual diet with a food frequency questionnaire.
- We may exclude you if you have conditions or take medications that could impact how your body processes food. These conditions could include diabetes, anemia, or ongoing cardiovascular disease.
- If you do not meet the criteria for participation in this trial because of meeting one or more exclusion criteria that are likely to change over time you may be rescreened e.g., dehydration or anemia during screening blood work.

If the research staff determines you are eligible to participate in the study, you will be scheduled for your first 8 day Feeding Cycle which includes a 2-day Run-in (preparation diet) and 6 days of a controlled dose diet containing your assigned test foods. After completing the 2 days of the Run-in diet, you will immediately begin the main portion of the trial.

You will be assigned a diet that has two paired test foods in zero, medium, and high amounts. First you will be assigned to 1 of the test food pairings: beef/whole wheat bread; chicken/potato; salmon/corn; cheese/soy; yogurt/oats. Second, you will be randomized (flip of a coin) to a sequence for the 3 dose levels of your assigned test food. You will not be told the assigned dose level sequence. The assignment of the dose order is random, and you will not be able to choose the test food pairing or dose order.

For example, you may be assigned a test food pairing of beef and whole wheat bread and a dose order of Feeding Period 1= zero, Period 2=high, and Period 3=medium. In this example you would eat beef and whole wheat bread as part of a regular diet for all 3 feeding periods and would not know the dose order, The zero dose levels would not contain beef or whole wheat bread.

Feeding Period: Study total of 3 (8 day) Feeding Periods.
A single feeding period includes Run-in (2 days) and a Controlled Dose Diet (6 days).

You will complete the following items for each of the 3 feeding periods and the procedure **will be repeated**, continuing through the 3 dose levels of your assigned test food pairing. During the 3 feeding periods you will receive meals, snacks, and beverages for eight days which include the run-in diet and test foods, and we ask **you eat all of the food we give you and nothing else on those days.** If you are not able to eat all of the food provided, we may ask you to take a photo of the uneaten portion and send it to the study email address. After each feeding period you will begin the next dose or take a break and schedule the start of 2-day run-in diet before the next test food dose level.

We will ask you to come to the center to pick up your meals and snacks the day before your Run-in diet begins **Day Zero** and on **Days 3, and 6** during the controlled dose diet. On **Day 9** you will not receive a meal but will come to the clinic for a fasting study visit in the morning. You will not eat meals on site. Meals will be packaged for you to take home.

When you come into the research center to pick up meals, we may interview you briefly and review your food record or call you to check-in. This will help us to be sure that you have eaten all your food in the last couple of days. We also want to know that you are tolerating the diet well. We will give you bags containing all the other foods you will need until you return to the center for your next meal. Typically, a food pick up visit will be brief about 20-30 minutes.

Run In: 2 days of a controlled diet not containing test foods and 1 in person food pick up

- Preparation Diet: You will be given a complete standard diet based on a calorie level determined from your sex, height, weight, and physical activity. This will introduce you to the controlled feeding regimen and make sure you are comfortable with the feeding procedures and process. The diet does not contain test foods.
- All food, snacks and calorie-containing beverages are provided for the entire 2 days. **We ask that you eat all of the food we give you and nothing else.**
- All meals will be given for you to eat at home.
- You will keep a diary of all food and beverages eaten.

Controlled Dose Diet: Up to 3 visits in total for each 1 week feeding period; 2 meal pick up; 1 in-person study visit on Day 9.

Location of clinic visits: Brigham and Women's Hospital-Center for Clinical Investigation

- 221 Longwood Avenue; Boston, MA 02115
- Other CCI sites located on Brigham and Women's Longwood Boston campus

STUDY RESPONSIBILITIES and ACTIVITIES	
DAY 0 Food Pick up **15-20 min**	**Day before Run-in diet starts** • Food pick up at BWH-CCI Kitchen: Receive all food and most drinks; 3 meals and snacks for Day 1, 2 of the Run-in diet and Day 3 the start of your Controlled Dose diet. • Pick up collection kits for stool sample and overnight urine collection
DAY 1 (at home)	**Run-in diet** • Consume all provided meals, snacks, and beverages according to feeding guidelines. • Complete daily diary of food, drink, and physical activity for Day 1.
DAY 2 (at home)	**Run-in diet** • Consume all provided meals, snacks, and beverages according to feeding guidelines. • Complete daily diary of food, drink, and physical activity for Day 2.
DAY 3 Food Pick up **20-30 min**	**First day of Controlled Dose diet** • Return to BWH-CCI Kitchen to pick up food and drink; 3 meals and snacks for Day 4, 5 and Day 6 Controlled Dose diet. • Complete a daily diary of food, drink, and physical activity for Day 3. • At home, collect stool sample #1 and mail back as directed.
DAY 4 (at home)	**Controlled Dose diet** • Consume all provided meals, snacks, and beverages according to feeding guidelines. • Complete daily diary of food, drink, and physical activity for Day 4.
DAY 5 (at home)	**Controlled Dose diet** • Consume all provided meals, snacks, and beverages according to feeding guidelines. • Complete daily diary of food, drink, and physical activity for Day 5.
DAY 6 Food Pick up **20-30 min**	**Controlled Dose diet** • Return to the ambulatory BWH-CCI to pick up food and drink, 3 meals and snacks for Day 5 and Day 6. • Complete daily diary of food, drink, and physical activity for Day 6.
DAY 7 (at home)	**Controlled Dose diet** • Consume all provided meals, snacks, and beverages according to feeding guidelines. • Complete daily diary of food, drink, and physical activity for Day 7.

DAY 8 (at home)	**Controlled Dose diet** • After eating Breakfast, Lunch, Dinner, and snacks for Day 8 begin 10 hr. fasting protocol for Day 9. No food will be consumed after 9 pm for 8 am fasting biospecimen collection. • Begin overnight urine collection. • Complete a daily diary of food, drink, and physical activity for Day 8.
DAY 9 **30-60 min**	**Fasting** • Return to the ambulatory BWH-CCI • Bring in completed daily food diaries • Bring in completed overnight urine collection. • Provide 10 hr. fasting blood and urine. o There are 3 blood draws for the study. o Each blood draw is 6 ml or about 1.5 teaspoon. o All blood draws will be done by a certified phlebotomist using a small gauge needle at the BWH-CCI. • Weight measured. • At home collect stool sample #2 and mail back as directed. • Start the next dose level o You will be scheduled for a 2-day run-in diet before the next dose level begins. o Pick up collection kits for next feeding period. • This cycle is repeated for the second, and finally with the third level.

Total blood collected for all 3 feeding periods is 18 ml or about 1.5 Tablespoons. In total there are three overnight urine collections, 1 for each feeding period. Urine is collected at the screening visit and on day 9 of each feeding period. There is a total of 6 stool collections. You will collect your overnight urine and stool in separate containers at home that will be provided with instructions.

Test Meal Composition: You will eat a standard US diet for all provided meals, snacks, and most beverages. Your randomly assigned test food will be included as part of these planned meals in the assigned doses of high, medium, and low. The test food doses are based on a certain percentage of your daily caloric needs and standard US intake averages. We will make sure your weight remains stable by checking it regularly and adjusting your total calories if needed.

Below is an example of a standard U.S. Diet for 1800 kcal. The meals and snacks you will eat are different from this example. The amounts of the foods you eat may also be different.

Meal	Breakfast	Lunch	Dinner	Snack
Sample Day	1 slice wheat toast 1/2 cup oatmeal 2 tsp no-sugar-added jam 1 cup blueberries 1 cup fat-free yogurt	2 slices white bread 3 oz sliced turkey Mustard as desired Lettuce as desired 1 pickle 1 cup cherry tomatoes 2 Tbsp reduced-fat mayonnaise 1 cup sliced cantaloupe 10 oz smoothie	1 small dinner roll 2 tsp margarine 1 cup corn 1 cup cooked squash 1 cup green beans 3 oz grilled or broiled flank steak 2 pecans, diced, on green beans 3/4 cup pineapple	3/4 oz pretzels 8 oz 1% milk

The diet and meals you receive are NOT designed to promote weight loss. In fact, we want your weight and your exercise level to stay the same during the study, because changes in weight and exercise can affect how your body responds to the test food. We will weigh you every time you come in for a blood draw. If you lose or gain weight, our dietitians will adjust the amount of food we give you, so that you maintain your weight. You will not be able to lose weight during this study if you follow study directions and eat only the food we give you. Specific diet guidelines and instructions will be provided including directions on recording all food and beverages that are consumed.

What are my responsibilities?

As a participant, you are responsible for

- Following all instructions provided to you by study staff including eating all the meals and snacks given to you.
- Arrive to your appointments on time.
- Do not take vitamin or mineral supplements during the testing period.
- Ask questions to study staff and clinical support staff when directions are not clear, or you do not understand any part of the research or procedures.

What are the risks and possible discomforts?

The potential risks to you as a participant are minimal. However, possible risks include:

- **Food Consumption:** The foods being tested in this study are commonly consumed foods, thus the probability, magnitude, and duration of any unforeseeable discomforts, allergic reactions, or side effects are exceedingly low. You may feel hunger when fasting. While not common you may have abdominal (stomach) discomfort or gas from eating the controlled diet in the amounts required. Let us know if you have any of these side effects.

- **Blood Sample:** There is some discomfort from needle sticks for blood sampling. Some people may have a slight bruise that will go away in a day or two at the needle stick site and rarely the vein gets sore and red. Infrequently, a person faints when blood is drawn. You may feel nausea or discomfort.

- **Urine and Stool Sample:** You may experience mild discomfort and/or inconvenience collecting your urine and stool at home.

- **Study Questionnaires:** There is a potential discomfort in having to answer some of the study questions including those about your diet, medical and social history. You are free to skip any question or item for any reason.

- **Time commitment**: There is a possibility of inconvenience at having to track food intake, avoiding eating certain foods, fasting when required, and attending all visits according to protocol

- **Confidentiality:** There is a small risk that participant confidentiality or privacy could be breached from questionnaire data.

Are there any benefits from being in this research study?

We cannot promise any benefits to you or others from your taking part in this research. Possible benefits may include the provided study meals. The potential benefits to society may be large. Study findings will help us discover and develop objective methods of dietary assessment.

What happens if I say yes, but I change my mind later?
You can leave the research at any time it will not be held against you. If you decide to leave the research, please contact the study staff who will notify the investigator.

Can I still get medical care at Mass General Brigham or Brigham and Women's Hospital if I choose not to participate in this research*?*
Yes, you may still get medical care at Mass General Brigham or Brigham and Women's Hospital if you choose not to participate in this study. Your decision will not change the care you receive now or in the future. Taking part in this research is your choice. If you decide to take part in this study, you may leave/stop the study at any time. There will be no penalty to you and your medical care will not be affected. If you would like to stop participating in this research, you should let us know. We will make sure that you stop the study safely.

It is possible that the investigator may ask you to stop the study before it is finished. If this happens, we will tell you why and arrange for other care for you if needed.

Will I be compensated for participating in this research?
If you complete all three feeding periods you will receive $1000.

- Run-In/ Preparation Diet= no compensation
- $100 for Feeding Period 1
- $300 for Feeding Period 2
- $600 for Feeding Period 3
  Total Compensation Possible= $1000

A single check from Harvard T.H. Chan School of Public Health will be mailed to you upon completion of the 3 feeding periods. You will be compensated only for completed feeding periods if you decide to withdraw from the study.

You will receive parking validation for visits that involve study measurements and clinical study visits at Mass General Brigham locations.

Please be aware, compensation for participation in research may be considered taxable income. The University requires tracking for compensation that is paid to you; this may include your name and contact information. Because you will receive $600 or more in a calendar year, you will be asked to provide additional (e.g., Social Security Number) information for tax reporting purposes. This information is stored confidentially and separate from research data.

What will I have to pay for if I participate in this research?
It will not cost you anything to participate in this research.

What happens if I am injured as a result of participating in this research study?
If physical injury resulting from participation in this research should occur, although Harvard's policy is not to provide compensation, medical treatment will be available including first aid, emergency treatment and follow-up care as needed, and your insurance carrier may be billed for the cost of such treatment. In making such medical treatment available, or providing it, the persons conducting this research project are not admitting that your injury was their fault.

If I take part in this research, how will my privacy be protected? What happens to the information you collect?

Your research records that are reviewed, stored, and analyzed at Harvard T.H. Chan School of Public Health and will be kept in a secured area. We will protect the confidentiality of your information to the extent possible. Samples collected for research purposes will be labeled with a code number and will be securely stored. The study investigators will maintain a key to the code that connects your name to your samples and health information collected throughout the study. This key will be kept securely in a password protected computer and locked file. Only approved research team members will have access to the key.

This study is collecting data and biospecimens (blood, urine, stool) from you. We would like to make your data and biospecimens available for other research studies that may be done in the future. The research may be about a health condition similar to this study. However, research could also be about unrelated diseases, conditions, or other aspects of health. These studies may be done by researchers at other institutions, including commercial entities. Our goal is to make more research possible to learn about health and disease.

Some people or organizations may need to look at your research records for quality assurance or data analysis. They include:

- Researchers involved in this study
- US Department of Agriculture, National Institute of Food and Agriculture (USDA-NIFA)
- National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health
- Harvard School of Public Health Institutional Review Board (IRB). This is a group that reviews the study to protect your rights as a research participant.
- The study appointed Data Safety and Monitoring Board
- Fred Hutchinson Cancer Center, The University of California
- The University of Washington
- The University of Nebraska
- Duke University
- US National Institutes of Health, Office for Human Research Protections (OHRP) at the US Department of Health and Human Services

Your study data will be sent to the Data Coordinating Center (DCC) at Duke University. The DCC will make your study data available to other Consortium members, including Fred Hutchinson Cancer Center, The University of California - Davis, and their affiliates in accordance with best practices for data safety and accessibility. Your data may be stored and shared for future research without additional informed consent if directly identifiable private information, such as your name and medical record number, are removed. If your identifying information is removed from your data, we will no longer be able to identify and destroy them. The use of your data may result in commercial profit. You will not be compensated for the use of your data other than what is described in this consent form. The final study data will be shared in limited datasets with direct identifying information removed. This data and study results will be made publicly available, in accordance with National Institutes of Health (NIH) data sharing policies.

Efforts will be made to limit the use and disclosure of your personal information, including research study and medical records, to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of this organizations involved in this research, including the sponsor of this study The National Institutes of Health, and a group that oversees the data (study information) and safety of this research.

Your data and biospecimens will be stored long term at the Harvard T.H. Chan School of Public Health and the NIDDK Central Repository. We plan to keep your data and biospecimens indefinitely or until used completely.

The NIDDK Central Repository is a research resource supported by the National Institutes of Health. The Repository collects, stores, and distributes biological biospecimens and associated data from people with many kinds of disorders, from unaffected family members, and from other healthy people. The purpose of this collection is to make biospecimens available for use in research for this study and health-related research in the future, after the current study is completed. Sending biospecimens to the Repository may give scientists valuable research material that can help them to develop new diagnostic tests, new treatments, and new ways to prevent diseases.

This research is covered by a Certificate of Confidentiality from the National Institutes of Health. This means that the researchers cannot release or use information, documents, or samples that may identify you in any action or suit unless you say it is okay. They also cannot provide them as evidence unless you have agreed. This protection includes federal, state, or local civil, criminal, administrative, legislative, or other proceedings. An example would be a court subpoena.

There are some important things that you need to know. The Certificate DOES NOT stop reporting that federal, state, or local laws require. Some examples are laws that require reporting of child or elder abuse, some communicable diseases, and threats to harm yourself or others. The Certificate CANNOT BE USED to stop a sponsoring United States federal or state government agency from checking records or evaluating programs. The Certificate DOES NOT stop disclosures required by the federal Food and Drug Administration (FDA). The Certificate also DOES NOT prevent your information from being used for other research if allowed by federal regulations.
Researchers may release information about you when you say it is okay. For example, you may give them permission to release information to insurers, medical providers, or any other persons not connected with the research. The Certificate of Confidentiality does not stop you from willingly releasing information about your involvement in this research. It also does not prevent you from having access to your own information.

The sponsor, monitors, auditors, the IRB, the Food and Drug Administration will be granted direct access to your medical records to conduct and oversee the research. By signing this document, you are authorizing this access. We may publish the results of this research. However, we will keep your name and other identifying information confidential.

Can I be removed from the research without my OK?
The person in charge of the research study or the sponsor can remove you from the research study without your approval. Possible reasons for removal include not following the research protocols, not eating the meals we give you, or no showing to clinic visits. We will tell you about any new information that may affect your health, welfare, or choice to stay in the research.

What else do I need to know?

- This research is being funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) which is part of the United States National Institutes of Health (NIH).
- Your information and samples (both identifiable and de-identified) may be used to create products or to deliver services, including some that may be sold and/or make money for others. If this

happens, there are no plans to tell you, or to pay you, or to give any compensation to you or your family.

You and your doctor won't receive any of the research results or the genetic test results done on your samples. Most tests done on samples in research studies are only for research and have no clear meaning for health care. If the research with your identifiable information or samples gives results that do have meaning for your health, the researchers *will not* contact you to let you know what they have found. If the researchers return genetic test results to you, it may be because they think you could have a health risk and want to recommend that the test should be re-done by a certified clinical laboratory to check the results. If this happens, then you may want to get a second test from a certified clinical laboratory, consult your own doctor, or get professional genetic counseling. You may have to pay for those additional services yourself.

This research study does not involve genetic testing, but other researchers may use your stored samples in the future for this type of research involves genetic testing. The Genetic Information Nondiscrimination Act (GINA) prohibits health insurers or health plan administrators from requesting or requiring genetic information of you or your family members or using such information for decisions regarding your eligibility for insurance or your premiums. However, this law does not provide the same protection for disability, life insurance, or long-term care insurance. GINA also prohibits most employers (with 15 employees or more) from using genetic information when making decisions on your employment, including decisions related to hiring, firing, promotion, pay, and job assignments. Information obtained through genetic testing may be susceptible to re-identification. The following safeguards will be used to help protect your information from re-identification:

- Deidentify data by removing all protected health information before any data deposit or biobank repository storage and by assigning an encrypted study ID to each subject that links the phenotypic data to biomarker data.
- Researchers from other institution, other universities, the government, and drug- or health related companies can apply to use the materials. A science committee at the Data/Biobank where your samples are stored will review each request. There may also be an ethics review. We will not give researchers your name or any other information that could directly identify you. Please contact your study doctor if you would like more information about GINA and how it protects you from genetic discrimination.

Future Studies
Right now, we believe your participation in the study should last about one month. When you have completed this 3-week study, you may be invited to participant in another 3-week trial with different paired foods. It is possible that we will want to contact you in the future regarding this study or other studies which may be of interest to you. Any new studies would go through ethics review (just like this one) and would likely have a new consent form for you to sign. Participation in this study includes permission to reach out to you in the future to update your contact information or invite you to participate in a follow-up to this study, or a similar new research initiative.

Federal law provides additional protections of your medical records and related health information. These are described below.

Authorization to Use and/or Share Your Protected Health Information (PHI)
Federal law requires Mass General Brigham to protect the privacy of health information that identifies you. This information is called Protected Health Information. In the rest of this section, we refer to this simply as "health information."

If you decide to take part in this research study, your health information may be used within Mass General Brigham and may be shared with others outside of Mass General Brigham.

We have marked with a ☒ how we plan to use and share your health information. If a box is not checked ☐, it means that type of use or sharing is not planned for this research study.

- **Health information about you that might be used or shared during this research**
  ☒ Information from your hospital/clinic records within this institution or elsewhere, that may be reasonably related to the conduct and oversight of the research study. If health information is needed from your doctors or hospitals outside this institution, you will be asked to give permission for these records to be sent to researcher(s) conducting this study.

  ☒ New health information from tests, procedures, visits, interviews, or forms filled out as part of this research study.

- **Why health information about you might be used or shared with others**
  The reasons we might use or share your health information are:
  - To do the research described above
  - To make sure we do the research according to certain standards – standards set by ethics and law, and by quality groups
  - For public health and safety – for example, if we learn new health information that could mean harm to you or others, we may need to report this to a public health or a public safety authority
  - For treatment, payment, or health care operations

- **People and groups that may use or share your health information**
  1. **People or groups within this institution**
     ☒ Researchers and the staff involved in this research study
     ☒ Harvard review board that oversees the research
     ☒ Staff within this institution who need the information to do their jobs (such as billing, or for overseeing quality of care or research)

  2. **People or groups outside the institution**
     ☒ People or groups that we hire to do certain work for us, such as data storage companies, our insurers, or our lawyers
     ☒ Federal and state agencies such as the U.S. Department of Health and Human Services, the Food and Drug Administration, the National Institutes of Health, and/or the Office for Human Research Protection, and other U.S. or foreign government bodies, if required by law or involved in overseeing the research
     ☒ Organizations that made sure hospital/clinic standards are met
     ☒ The sponsor(s) of the research study, and people or groups it hires to help perform this research study
     ☒ Other researchers and medical centers that are part of this research study
     ☒ A group that oversees the data (study information) and safety of this research study
     ☐ Other:
- **Time period during which your health information might be used or shared with others**
  Because research is an ongoing process, we cannot give you an exact date when we will either destroy or stop using or sharing your health information.

Your Privacy Rights

- You have the right not to sign this form permitting us to use and share your private information for research. If you do not sign this form, you cannot take part in this research study. This is because we need the private information of everyone who takes part.

- Participating in this study means you agree to share your data and biospecimens. You can change your mind later, but researchers may still use your data and biospecimens that have already been shared. If you do not want your data and biospecimens used for other projects, you should not participate in this study.

- You can change your mind about sharing your data and biospecimens at any time. If you change your mind, please contact the study team to let us know. At the time study staff learn of your wish to stop sharing samples and data, no additional samples or data will be collected. Anything collected up to this point will be kept and used to maintain the scientific validity of the study.
- You have the right to withdraw your permission for us to use or share your private information for this research study. If you would like to withdraw your permission, you must notify the person in charge of this research study in writing.

- If you withdraw your permission, we will not be able to take back any information that has already been used or shared with others. This includes information used or shared to carry out the research study or to be sure the research is safe and of high quality.

- If you withdraw your permission, you cannot continue to take part in this research study.

- You have the right to see and get a copy of your private information that is used or shared for treatment or for payment. To ask for this information, please contact the person in charge of this research study.

Statement of Consent
I have read the information in this consent form including risks and possible benefits. All my questions about the research have been answered to my satisfaction. I understand that I am free to withdraw at any time without penalty or loss of benefits to which I am otherwise entitled. I understand that if I am returning this form electronically or remotely that all pages must be sent back to the researchers.

I consent to participate in the study.

Signature

Your signature below indicates your permission to take part in this research and to the use and disclosure of your protected health information:

Name of participant	
Signature of participant	Date
Signature of person obtaining consent	Date
Printed name of person obtaining consent	

Appendix A

Start				Feeding Periods 1-3 END						
Variable	Pre-Screen	SV	Post-Screen Eligibility	Day 0	RUN-IN diet Day 1	RUN-IN diet Day 2	Controlled Dose diet Dose- Zero, Medium, High Day 3-8 *Dose A*	Day 3-8 *Dose B*	Day 3-8 *Dose C*	Day 9 Clinic Visit *Dose A, B, C*
Pre-Screen Eligibility Form	X									
Consent		X								
Medical/Social History		X								
Food Frequency Questionnaire (FFQ)		X								
Physical Activity		X								
Food Acceptability		X								
Height		X								
Blood Pressure		X								
Weight- SV and Day 9		X								X
Run-in/ Preparation Diet					X	X				
Daily Meal Checklist					X	X	X	X	X	
Eligibility Blood Draw/ Baseline Sample		X								
Randomization/ Assignment- Food/Dose			X							
Urine collection- screening, home, clinic		X					X	X	X	X
Blood Collection- Day 9										X
Stool Collection- Days 3 and 9							X Day 3	X Day 3	X Day 3	X
Controlled Feeding Prescribed Food/Dose- Days 3-8							X	X	X	
Meal Pick Ups Days 0,3,6				X			X	X	X	