CONSENT FORM [2012s0565]

INFORMED CONSENT BY SUBJECTS TO PARTICIPATE IN THE FOLLOWING EXPERIMENT:

PREDICTING IN VIVO INTERACTIONS BETWEEN CAFFEINE AND FURANOCOUMARINS-CONTAINING HERBS OR FOODS BASED ON IN VITRO DATA FROM HUMAN LIVER MICROSOMES.

You are being asked to participate in a research study. In order to decide whether or not you should agree to be part of this research study, you should understand enough about its risks and benefits to make an informed judgment. This process is known as informed consent.

This consent form gives detailed information about the research study that the investigator will discuss with you. Once you understand the study, you will be asked to sign this form if you wish to participate. You will have a copy to keep as a record.

The proposed research study will be to collect timed saliva and urine samples from you after ingesting caffeine tablets (200 mg) alone or caffeine tablets (200 mg) with an herb (or vegetable) together.

PURPOSE OF THE RESEARCH STUDY:

To determine if a single meal of furanocoumarin-containing herb (or vegetable) would cause inhibition of caffeine metabolism after co-administration.

DESCRIPTION OF THE RESEARCH PROCEDURES:

You have been selected to participate in this study to find out if common furanocoumarin-containing vegetables (or herbs) are capable of modulating caffeine metabolism in humans. ***You should be a non-smoker between the ages of 20-35 years but not pregnant or breast-feeding.*** You will be asked to refrain from ingesting caffeine, caffeinated drinks and furanocoumarin-containing foods for 3 days before participating in the first pharmacokinetic study (without co-treatment with an herb) and until the end of the second pharmacokinetic study (with co-treatment of an herb). You will be provided a study kit consisting of caffeine tablets (400 mg), an herbal extract, and several coded containers for saliva and urine sample collection. You will conduct the following studies in the privacy of your homes:

First pharmacokinetic study: Time course of caffeine and metabolite concentrations in the saliva of humans without herb/food extract co-treatment. On the day of the experiment, you will ingest 200 mg caffeine tablets (equivalent to the amount of caffeine in a cup of coffee or in a can of energy drink). A saliva sample (about 3 ml) will be collected in a coded, siliconized glass tubes just before dosing. Serial saliva samples also will be collected at 0.5, 1, 1.5, 2, 2.5, 3, 4, 5,

6, 7, 8 and 12 hr post-dosing. A 30 ml urine sample will be collected at 4-8 hr post caffeine administration since the half-life of caffeine clearance in the human is about 4-4.5 hr.

Second pharmacokinetic study: Time course of caffeine and metabolite concentrations in the saliva of humans co-treated with an herb/food extract. After a 3-day wash-out period, you will ingest 4.5 g (or 9 g) of a dehydrated herb (or food) in the form of an aqueous extract 3 hr before ingesting the caffeine tablets. You will be given one of the following herbs or vegetables: parsnip, celery, dill, parsley, angelica, false bishop's weed, common rue, lovage, khella, dong quai, and baizhi. A saliva sample (about 3 ml) will be collected in a coded, siliconized glass tubes just before dosing. Serial saliva samples also will be collected immediately after dosing with an herb extract at 0.5, 1, 1.5, 2.5, 3.0 hr and after dosing with caffeine at 0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 7, 8 and 12 hr. A 30 ml urine samples will be collected before dosing and at 4-8 hr post-caffeine ingestion,

At the conclusion of the study, the saliva and urine samples from both pharmacokinetic studies will be submitted to the principle investigator for chemical analysis. Information learned from study of this study will be used in a PhD thesis, and may be shared with the medical communities to better understand the nature of caffeine/herbs (foods) interaction.

PRIVACY:

Your research records are confidential. Your identity and all personal and confidential information about you will NOT be divulged to anybody. All private information related to you will be kept in a locked cabinet at Simon Fraser University, which is accessed by the principle investigator only. A coded number will be given to the saliva and urine specimen, and used by the investigators for reference only. The only information needed to compare your saliva and urine samples with those taken from other participants will be your age, sex, race, and whether you are sensitive to caffeine which might affect the interpretation of results. Participating scientists will not have access to your identity. All private information about you will be destroyed permanently in year 2015.

BENEFITS:

You will not benefit directly from this study. No information obtained by this study will be made available to you. However, there is the potential to benefit other people in the future if the study leads to the development of an effective method for predicting caffeine/herb interaction using *in vitro* data.

RISKS:

There will be no risk to your health because the amount of caffeine ingested is equivalent that in a cup of coffee. Moreover, the herbs (or foods) selected for the study are found in our daily diets. Rarely, overdose caffeine use may result in adverse health effects including nausea, vomiting, irritability, nervousness, anxiety, panic attacks, dehydration, and sleep disorders in sensitive individuals (Health Canada, 2012). By signing this consent form you give to Simon Fraser

University your saliva and urine samples for the advancement of science and will relinquish all rights and privileges obtained from analysis and experimental work on your samples or information obtained.

RIGHT TO REFUSE OR WITHDRAW:

The choice to enter or not to enter this study is yours. You are in a position to make a decision if you understand what the principle investigator has explained and what you have read about the research study. ***You have the right to withdraw at any time without prejudice***. As long as the principle investigator can still identify the sample, the subject can ask to have it withdrawn. The only way a subject cannot have a collected sample withdrawn is if once the sample is collected it is made absolutely anonymous. This means there can be no link anywhere to the subject's name, record number, etc. Following the procedure, you give up all rights to retract consent to use of the saliva and urine samples and information obtained.

This study has been reviewed by the Research Ethics Board at Simon Fraser University, which is responsible for making sure that research with participants is appropriate and that the rights and welfare of the participants are protected. If you have any questions or need more information about the conduct of this study, contact Dr. Francis Law, Professor, Biological Sciences, at flaw@sfu.ca or phone [778-782-4285]. If you have questions about your rights as a research subject, contact Dr. Hal Weinberg, the Director, Office of Research Ethics at hal_weinberg@sfu.ca or phone [778-782-6593].

I have read this consent form and the research study has been explained to my satisfaction. I also certify that I have received a copy of this consent form.

PERSON OBTAINING CONSENT	**PARTICIPANT SIGNATURE**
PRINTED NAME OF PARTICIPANT	**DATE**
INVESTIGATOR'S SIGNATURE	**DATE**