**TITLE: Metabolomics in the New Hampshire Birth Cohort Study**

Metabolomic Analysis: Metabolomics and Exposome Lab at UNC Nutrition Research Institute

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IRB Number(s): 20844 (Geisel School of Medicine / Dartmouth College)

**Abstract:**

Data were obtained from participants in the New Hampshire Birth Cohort Study, a prospective pregnancy cohort. Chemical co-exposures were assessed via silicone wristbands worn for one week at approximately 13 gestational weeks. Metabolomic features were assessed in maternal plasma samples obtained at ~24-28 gestational weeks via the Biocrates AbsoluteIDQ® p180 kit and nuclear magnetic resonance (NMR) spectroscopy. Associations between chemical co-exposures and plasma metabolomics were investigated using multivariate modeling to examine the association of chemical co-exposures on the maternal plasma metabolome during pregnancy. Contact Dr. Margaret Karagas ([margaret.r.karagas@dartmouth.edu](mailto:margaret.r.karagas@dartmouth.edu)) for additional information on the project.

**Sample Description:**

The data obtained for the NMR metabolomics analysis can be found in the accompanying files:

Procedures: 1. Dartmouth ECHO OIF Metabolomics Procedures.docx

Study Design Tables: 2. Dartmouth ECHO OIF Metabolomics Study Design Table.xls

Metadata: 3. Dartmouth ECHO OIF Metabolomics METADATA.xlsm

Concentration Data: 4. Dartmouth ECHO OIF Metabolomics Normalized Binned Data.xlsx

5. Dartmouth ECHO OIF Metabolomics Raw Data.zip

**Notes:**

Full sample preparation and analysis procedures are available in the accompanying document entitled **1. Dartmouth ECHO OIF Metabolomics Procedures. docx.**

Descriptions of abbreviations for factors are available in the Variable Dictionary in the accompanying file no. **2. Dartmouth ECHO OIF Metabolomics Study Design Table.xls**.

The phenotypic and normalized data are available in the accompanying file: **4**. **Dartmouth ECHO OIF Metabolomics Normalized Binned Data.xlsx.** DRCC\_ID (Sample ID) serves as the unique identifier in the dataset. DRCC\_ID and factors can be found in the first four columns and other columns in the spreadsheets contain sample metadata and the normalized binned data or concentration data. For binned data, if the statistical program does not allow variable names to begin with a number then add a prefix to the column names, for example, bin\_8.98 instead of 8.98. The spreadsheet contains concentration fit data from the metabolites that were fit to the spectra.

The **DRCC\_ID** (Sample ID) serves as the unique identifier of the individual samples and is used as the NMR folder name in the raw NMR data file **5. Dartmouth ECHO OIF Metabolomics Raw NMR Data.7z**.