ELEMENT Data Dictionary

****Fatty Acid Data

**Contents**

**Background 1**

ELEMENT . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1

**Study identifiers 2**

**Fatty Acid Variables 3**

**Background**

This document is a data dictionary for fatty acids measured in plasma. It describes *35* variables from 1 source. This document was built from the data set ***fatty\_acid\_plasma\_t1*** and was last updated on ***August 16, 2019*.**

405 fasted plasma samples from Mexican adolescents were used in the analysis. Fatty acid levels were measured in plasma using gas-liquid chromatography, as percentage of total fatty acids. Testing occurred at University of Michigan Metabolomics Core. First, the lipid layer was extracted with methanol using 100 uL of plasma and the fatty acid methyl esters of total lipids were extracted from a TLC plate. Next, the methyl esters were resuspended in hexane and samples were analyzed with Agilent, Model 6890N. Chemstation software, Agilent, was then used to analyze the peaks and the amounts of fatty acids were determined based on C19:0 methyl ester as the standard.

Projects using this data should say they “utilized the Metabolomics Core Services supported by grant U24 DK097153 of NIH Common Funds Project to the University of Michigan”. They should also acknowledge support of a pilot grant the University of Michigan Momentum Center (Co-I’s: Erica Jansen, Ana Baylin, Deirdre Conroy). Please reach out to Erica Jansen ([janerica@umich.edu](mailto:janerica@umich.edu)) with any questions about these data.

**ELEMENT**

**T**he **E**arly **L**ife **E**xposures in **M**exico to **EN**vironmental **T**oxicants (ELEMENT) cohort includes three birth cohorts from Mexico City maternity hospitals that have been followed for over two decades to learn how environmental exposures to metals and chemicals affect pregnant women and children.

*STUDY IDENTIFIERS*

**Study identifiers**

Study identifiers are standardized across ELEMENT data sources to enable linking of data from different sources.

|  |  |  |
| --- | --- | --- |
| Variable | Variable Label | Details |
| **Foliocc** | Unique Subject ID | Assigned to participants during the Cholesterol visit (2008), and continues with them over time |

*Fatty Acids*

**Fatty Acid Variables**

Database ID for source: ***???***

**Description**

The variable names starting with S correspond to saturated fatty acids. M corresponds to monosaturated. P corresponds to polyunsaturated. T corresponds to trans.

The units of these variables are percentages of total fatty acids. For example, a value of 20.8 for S4 means that 20.8% of that participant’s total fatty acid content is hexadecenoic acid (or palmitic acid).

***FATTY ACID DATA***

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Variable Label** | **Details**  **Trivial Name Carbon Name** | |
| Sc | Tridecanoic Acid |  | 13:0 |
| S2 | Tetradecanoic Acid | Mystristic Acid | 14:0 |
| M1 | 9c-Tetradecenoic Acid | Mysristoleic Acid | 14:1n-5c |
| S3 | Pentadecanoic Acid |  | 15:0 |
| S4 | Hexadecanoic Acid | Palmitic Acid, Aethalic Acid | 16:0 |
| S5 | Heptadecanoic Acid | Margaric Acid, Daturinic Acid | 17:0 |
| S6 | Octadecanoic Acid | Stearic Acid | 18:0 |
| S8 | Eicosanoic Acid | Arachidic Acid, Icosanoic Acid, Arachic Acid | 20:0 |
| M10 | 11c-Eicosenoic Acid | Gondoic Acid | 20:1n-9c |
| P10 | 5c,8c,11c,14c17c-Eicosapentaenoic Acid | EPA, Timnodonic Acid | 20:5n-3c |
| S10 | Docosanoic Acid | Behenic Acid | 22:0 |
| M13 | Docosenoic acid | Erucic Acid | 22:1 (n-9) |
| P12 | 7c,10c,13c,16c-Docosatetraynoic Acid | Aolrenic Acid | 22:4n-6c |
| P13 | 7c,10c,13c,16c,19c-Docosapentaenoic Acid | DPA | 22:5n-3c |
| P14 | 4c,7c,10c,13c,16c,19c-Docosahexaenoic Acid | DHA, Cervanic Aicd | 22:6n-3c |
| S12 | Tetracosanoic Acid | Lignoceric Acid | 24:0 |
| M12 | 15c-Tetrasenoic Acid | Nervonic Acid, Selacholeic Acid | 24:1n-9c |
| M3 | 9c-Hexadecenoic Acid | Palmitoleic Acid, Zoomaric Acid, Physetoleic Acid | 16:1n-7c |
| T2 | 9t-Hexadecenoic Acid | Palmitelaidic Acid | 16:1n-7t |
| T3 | 6t-Octadecenoic Acid | Petroselaidic Acid, Tarelaidinic Acid | 18:1n-12t |
| M7 | 11c-Octadecenoic Acid |  | 18:1n-7c |
| T5 | 11t-Octadecenoic Acid | Vaccenic Acid | 18:1n-7t |
| M6 | 9c-Octadecenoic Acid | Oleic Acid, Rapinic Acid | 18:1n-9c |
| T4 | 9t-Octadecenoic Acid | Elaidic Acid | 18:1n-9t |
| P1 | 9c,12c-Octadecadienoic Acid | Linoleic Acid, Leinlic Acid, Telfairic Acid, Linolic Acid | 18:2n-6cc |
| T12 | Octadecadienoic Acid | Linoelaidic Acid | 18:2 (n-6)tt |
| T7 | 9c,12t-Octadecadienoic Acid |  | 18:2n-6ct |
| T8 | 9t,12c-Octadecadienoic Acid |  | 18:2n-6tc |
| P4 | 9c,11c-Octadecadienoic Acid | CLA (C14), Ricinenic Acid | 18:2n-7c |
| P3 | 9c,12c,15c-Octadecatrienoic Acid | Alpha-linolenic Acid | 18:3n-3c |
| P2 | 6c,9c,12c-Octadecatrienoic Acid | Gamma-linolenic Acid, Gamolenic Acid | 18:3n-6c |
| P5 | 11c,14c-Eicosadienoic Acid |  | 20:2n-6c |
| P7 | 11c,14c,17c-Eicosatrienoic Acid | from 18:3(n-3) | 20:3n-3c |
| P6 | 8c,11c,14c-Eicosatrienoic Acid | Dihomogammalinolenic Acid | 20:3n-6c |
| P8 | 5c,8c,111c,14c-Eicosatetraenoic Acid | Arachidonic Acid | 20:4n-6c |