A new chemical library of food compounds and food-derived metabolites developed in FOODBALL

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Background: FOODBALL (Food Biomarkers Alliance) is a large collaborative EU project (22 partners from 11 countries) funded by the Joint Programming Initiative "A healthy diet for a healthy life" which includes a systematic exploration and validation of nutritional biomarkers. As the lack of commercial standards is one of the major limitations in metabolomics and biomarker research, the FOODBALL consortium will establish an online chemical library in order to facilitate the sharing of not easily accessible standards for diet-derived compounds.

How it works: The FOODBALL chemical library will be a virtual library, with compounds stored in the laboratory where they have been isolated or synthesized. Version 1.0 will be an online catalog of pure compounds and reference materials (food extracts, biofluids from animals fed pure compounds, incubation media from in vitro systems to produce metabolites, etc.) made available by FOODBALL partners and associated collaborators. The catalog will contain the list of available compounds with associated data including elemental formula, monoisotopic mass, solubility, origin, purity, available quantity, storage conditions, stability, links to existing databases, type of spectral data available and contact details of the laboratory offering to share the standard. The catalog will be queryable by compound name and chemical structure. In the final version, which should be available at the end of 2016, spectral data (GC-MS, LC-MS, NMR, UV, IR) collected in standardized formats will be made searchable online.

Anyone interested in one compound in the catalog will directly contact the provider. A bilateral negotiation will define the terms of collaboration. A financial compensation in addition to the shipping fees is possible if agreed. Contributors and users will have to respect a charter of good practices. For example, the provider will have to indicate on a packing slip the minimum information regarding the appearance of the product, quantity, recommended storage conditions, stability and safety information if available. The acquirer will bear all shipping costs, and will have to share the spectral analyses he has acquired on his own analytical platform. This will continuously enrich the content of the chemical library. The library will allow it to post a demand for a non-available compound, to stimulate its synthesis or isolation. The greatest need is for human metabolites of food-derived compounds.

The FOODBALL chemical library is a collaborative initiative widely open to new contributors and users. Anyone interested to contribute can contact us.