The TaRGET II initiative is issued as a cooperative agreement to support individual Consortium members (U01) and a Data Coordination Center (U24) to study the conservation of exposure-induced epigenetic perturbations between surrogate and disease-relevant target tissues.

The purpose of this program is to characterize the epigenetic changes that are induced by environmental exposures in a variety of tissues and cell types, to investigate the factors, such as the timing of exposure, that influence whether induced changes are conserved across tissues, and to assess the utility of surrogate cell types for epigenetic analyses in environmental health research. This Consortium will explore the conservation of epigenomic perturbations across target tissues/cells and surrogate tissues/cells using mouse models of environmentally relevant diseases.

In 2016, NIEHS awarded six cooperative agreements for the TaRGET II Consortium (T2C) Program, consisting of five TaRGET II individual Consortium members (U01) and one Data Coordination Center (U24). The U01 awards went to: Johns Hopkins University / Case Western Reserve University (Shyam Biswal / Sanjay Rajagopalan, PIs); North Carolina State University (David Aylor, PI); Baylor College of Medicine / University of Pennsylvania (Cheryl Walker / Marisa Bartolomei, PIs); The University of Chicago (Gokhan Mutlu, PI); and University of Michigan (Dana Dolinoy, PI). The U24 was awarded to Washington University in Saint Louis (Ting Wang, PI).

The data generated will serve as a resource and be utilized by the scientific community to enhance understanding of exposure-related disease mechanisms and to aid in the evaluation of epigenomic changes in surrogates that may serve as potential biomarkers of exposure-associated pathologies. Ultimately, the TaRGET II program will provide insights into the design and interpretation of human studies where target tissues are inaccessible.

More information on the program can be found in the RFA announcements, RFA-ES-15-001 and RFA ES-015-002. For guidelines on how to cite TaRGET II data in your publications, please visit the Citing TaRGET page.

# DATA RELEASE Policies

NIEHS expects that the major resources resulting from this project, including data, software, and analyses, generated by the T2C will be made freely available to the research community. The data release policies are intended to ensure deposition of data in public databases as soon as possible after data are deemed to be highly reproducible or otherwise reliable by the data producers. To maximize the utility of data for downstream users, the T2C has adopted the following as cornerstones of its data release policy:

* As data are generated, data producers will submit primary data in the form of raw sequencing reads, together with agreed-upon metadata, to the DCC.
* The SC will establish data and metadata standards for each data type generated by the T2C. The DCC will ensure compliance with agreed-upon standards for each data type prior to public release and will work with data producers to rectify any deficiencies.
* As soon as study data are verified to pass Consortium quality standards, files will be submitted to the NCBI Gene Expression Omnibus (GEO) and the NCBI Sequence Read Archive (SRA) for immediate public release without restrictions. The DCC will coordinate submission of all files on behalf of the data producers.
* Periodically, the Consortium will provide a complete Environmental Exposure Epigenome Atlas linking the full set of submitted data files. Atlas releases will define the files comprising complete studies and will provide a comprehensive matrix of experimental results along with complete metadata and experimental descriptions. The SC will determine data freezes associated with Consortium Atlas releases.
* The DCC will establish appropriate tools and infrastructure for organizing, promptly displaying, and releasing received data that conforms to agreed-upon data submission and display standards for each data type.

Updated March 5th, 2020