NIH Developmental Genotype-Tissue Expression (dGTEx) project

The NIH is coordinating efforts for establishing a developmental Genotype-Tissue Expression (dGTEx) project, to catalog and analyze transcriptional profiles from a wide variety of tissues obtained from neonates, children, and adolescents in a post-mortem setting. The goal of the dGTEx project (https://www.genome.gov/Funded-Programs-Projects/Developmental-Genotype-Tissue-Expression) is to establish a resource database and associated tissue bank to study gene expression patterns in multiple reference tissues during human developmental stages. This initiative is based on the NIH-wide Common Fund Genotype-Tissue Expression (GTEx) project (https://commonfund.nih.gov/gtex) that began in 2010. The purpose of GTEx was to build a comprehensive public resource to study gene expression patterns and regulation in adult tissues. The goals of GTEx were to correlate gene expression and genetic variation within the same individual across numerous tissues and examine individual variation within a tissue across an adult population. The GTEx Portal (https://www.genome.gov/Funded-Programs-Projects/Genotype-Tissue-Expression-Project) provides open access to data including tissue gene expression profiles, expression and splicing quantitative trait loci (eQTLs and sQTLs) and sample statistics. This resource has been extensively used and benefits the scientific community, such as in drug discovery and repurposing as well as in drug safety and toxicity studies. The success of GTEx in adults lays the groundwork to initiate a similar project to understand the typical patterns of gene expression during human development.

Two companion RFAs for the Developmental Genotype-Tissue Expression (dGTEx) Project are now published:

- Laboratory, Data Analysis, and Coordinating Center for the Developmental Genotype-Tissue Expression Project (U24 Clinical Trial Not Allowed): https://grants.nih.gov/grants/guide/rfa-files/RFA-HG-20-039.html
- Pediatric Biospecimen Procurement Center (BPC) Supporting the Developmental Gene Expression (dGTEx) Project (U24 Clinical Trial Not Allowed)**:** https://grants.nih.gov/grants/guide/rfa-files/RFA-HD-21-008.html

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