

Introducing the center for genetics, genomics, and epigenetics of substance use disorders in outbred rats.

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The new center will provide numerous resources to the rat genetic community. The center consists of four cores. Core A (Admin Core) maintains the center's website (www.ratgenes.org) and a database that contains genotype and phenotype data from almost 20,000 HS rats. Phenotype data include behavioral, physiological, gene expression (RNASeq), DNA methylation (from PacBio), chromatin (from ATACSeq), single cell RNASeq and ATACSeq, microbiome, and metabolomic data. The Admin Core also supports summer internships for high school and college students. Core B (Breeding Core) supports two HS rat breeding colonies, one led by Leah Solberg Woods at Wake Forest University, and one led by Abraham Palmer at UCSD. Currently these breeding colonies produce about 2,000 HS rats per year. These breeding colonies also provide RATTACA rats (www.ratgenes.org/RATTACA), which are rats with polygenically predicted traits. All rats are provided at a subsidized cost. Core C (Genotyping, Analysis and eQTL Core) provides SNP genotyping services, maintains and will continue to expand and enhance the eQTL database (www.RatGTEEx.org) and has recently introduced a transcriptome-wide association study (TWAS) server (TWAS.RatGTEEx.org). Core D (Pilot Project Core) provides pilot project grants including small monetary awards, free HS rats, or free RATTACA rats to qualified US-based investigators.