

THE TENNESSEE MOUSE GENOME CONSORTIUM (TMGC) NEUROMUTAGENESIS PROGRAM: SCREENING FOR ABNORMALITIES OF THE NERVOUS SYSTEM AND BEHAVIOR

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The statewide mutagenesis and phenotyping effort by TMGC Neuromutagenesis Project has now completed year 3. This project's goal is to generate new mutations in genes that control the development and function of the nervous system, and to develop and apply breeding and screening protocols that allow the ascertainment of quantitative, statistically sensitive, or otherwise "difficult" or complex neurobehavioral phenotypes, and to set aside an aging colony for identifying late-onset recessive effects.

The TMGC Neuromutagenesis Project's main web site (<http://tnmouse.org>) displays our currently available mutants ascertained from a variety of tests spread into various phenotyping domains. Reporting and analysis of test results via MuTrack, our internal web-based database is also available to the outside community for individuals interested in viewing raw data. To date, 194 have been screened by all domains (except aging) across the entire TMGC, and 1,192 have been evaluated for lethal and visible mutations. So far, 73 mutations have been identified, with a number of others in the "more subtle" eye, neurohistology, ethanol, and general behavior domains. Some of the neurological phenotypes include abnormal brain histology, deficiencies in cerebellar morphology and function, abnormal retinal phenotypes, and locomotor activity variants, and many others. New this year also was the initiation of re-screening for late-onset behavioral and neuroanatomical aberrations of pedigrees aged to 18 months, and the start of NIA supplemental funding to age at least 300 pedigrees to 28 months, with tests for longevity, growth, and stress response. Updates on all these TMGC Neuromutagenesis activities will be presented.

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