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University of Utah researchers have developed a protocol, paradigm, and apparatus to measure acute pupil dilation as a quantitative measure of mouse stress. The test is run in a sound and light isolated box, where tones are played to startle the mice. The apparatus is head-fixed, enabling concurrent high-resolution testing of brain activity.

**TECHNOLOGY SUMMARY**

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**FEATURES AND BENEFITS**

- Measures stress quantitatively through adrenergic fight-or-flight response.
- Quantifies stress within seconds, enabling a full test in about 30 minutes.
- Offers capability to test anxiolytic or anti-depressant drugs and medication side effects.
- Enables concurrent brain testing.

**INVENTOR PROFILE**

Dimitri Traenkner, Ph.D., Research Assistant Professor – Biology
Mario R. Capecchi, Ph.D., Distinguished Professor – Human Genetics

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**TECHNOLOGY TYPE**
Animal Models
Software

**STAGE OF DEVELOPMENT**
- Prototype developed and validated using several model systems.
- Optimizing equipment prototype.

**RESEARCH TOOLS & REAGENTS**
Apparatus, protocol, and paradigm that quantitatively measures mouse stress levels through pupil dilation.

**LEARN MORE**
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