MAY 13, 2019

OPEN ACCESS

DOI:
dx.doi.org/10.17504/protocols.io.x99fr96

External link:
<https://mmpc.org/shared/document.aspx?id=306&docType=Protocol>

Protocol Citation: David A. Antonetti 2019. U Michigan - Optokinetic Measurements of Visual Acuity and Contrast Sensitivity. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.x99fr96>

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Protocol status: Working
We use this protocol and it's working

Created: Feb 18, 2019

Last Modified: May 13, 2019

PROTOCOL integer ID:
20513

U Michigan - Optokinetic Measurements of Visual Acuity and Contrast Sensitivity

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ABSTRACT

Summary:

A virtual optometry system is used to quantify the spatial vision of laboratory animal.

Keywords: Optokinetic
Measurements, Visual Acuity,
Contrast Sensitivity

- 1 Animal is placed inside a square box displaying a rotating cylinder comprised of a vertical sine wave grating is calculated and drawn in virtual three-dimensional coordinate space on four computer monitors facing the animal to form a square.
- 2 Animal stands unrestrained on a platform in the center of the square
- 3 The animal's head movement is tracked for reflexive head and neck movements in response to the grating rotating around the animal
- 4 The spatial frequency of the grating is clamped at the viewing position by repeatedly re-centering the cylinder on the head in real time
- 5 Visual acuity is quantified by increasing the spatial frequency of the grating until an optomotor response could not be elicited
- 6 Contrast sensitivity is measured by identifying the minimum contrast that generates tracking over a range of spatial frequencies