Indirect ophthalmoscopy ESLIM_013_001

Purpose

This test can be used to determine whether a mouse presents with abnormalities of the fundus, such as retinal degeneration, optic disc coloboma, or vascular problems.
1.0 Purpose:

1.1 This test can be used to determine whether a mouse presents with abnormalities of the fundus, such as retinal degeneration, optic disc coloboma, or vascular problems.

2.0 Scope:

2.1 Individuals who have been trained, and are competent in performing the procedures described herein must follow this procedure.

2.2 Any queries, comments or suggestions, either relating to this SOP in general or to a specific problem encountered during a procedure, should be addressed to the Visual Research Project Leader.

2.3 Any deviations from this protocol must be reported to the Visual Research Project Leader.

3.0 Safety Requirements:

3.1 General laboratory procedures should be followed, which include: no eating, no chewing gum, no drinking, and no applying of cosmetics in the work area. Laboratory coats and gloves must be worn at all times in the work area, unless the protocol specifically describes the appropriate attire for the procedure.

4.0 Associated Documents:

5.0 Notes:

6.0 Quality Control:

7.0 Equipment:
7.1 Heine Sigma 150 ophthalmoscope (full head brace or spectacle mounted ophthalmoscope), or a Heine Omega 180 ophthalmoscope (full head brace) or a
Heine Video Omega 2C indirect Ophthalmoscope (full head brace), VRmAVC Video Grabber, computer or a Kowa Genesis opthalmoscope

7.2 Power supply, Heine Accubox II

7.3 Volk double aspheric 30, 40, 60 or 90D lens, or Volk Superfield NC lens

8.0 Supplies:

8.1 Mydriatic: Tropicamide, 1% supplied by Minims or 1% Atropine (active ingredient 1% atropine sulfate)

9.0 Procedure:

9.1 Remove the screw top from the vial containing the mydriatic (1% tropicamide or 1% atropine).

9.2 Restrain the mouse firmly in one hand.

9.3 Whilst holding the mouse in one hand, pick up the vial containing the mydriatic and squeeze directly above an eye of the mouse allowing a drop to cover the surface of the eye. Take care that no contact is made with the surface of the eye and the dropper. Repeat the procedure for the second eye.

9.4 Return the mouse to its cage and allow at least 5 minutes for the effect of the mydriatic to take place.

9.5 Using either the Heine Sigma 150, or Heine Omega 180, place the device onto your head and adjust the binoculars accordingly.

9.6 Adjust the light being emitted from the opthalmoscope by altering the pinhole size button located on the binocular housing.

9.7 Once time has elapsed, restrain the mouse firmly in one hand.
9.8 Hold the mouse at arms length and shine the light into the eye of the mouse to determine if the pupil has fully dilated. This will be apparent when the iris is not visible.

9.9 Pick up the lens and place between the mouse eye and the beam of light.

9.10 Adjust the lens in and out until the back of the retina can be visualised.

9.11 Orientate the field of view by visualising the optic disc.

9.12 Moving the lens around the eye will alter the view, such that the whole fundus can be examined.

9.13 Record a description of the mouse eye observed.

9.14 Repeat the observation for the second eye.

9.15 To take fundus photos the Heine Video Omega 2C Ophthalmoscope, connected to the video grabber and the computer, is used. The handling is similar as described before.

9.16 If possible a second person should check the fundus image on the computer monitor. To save the image, click on “snapshot”.

10.0 Supporting Information:


11.0 History Review:

12.0 Emergency Procedures:
Parameters and Metadata

**Eye** ESLIM_013_001_001 | v1.0

*simpleParameter*

- **Req. Analysis:** false
- **Req. Upload:** true
- **Is Annotated:** true

**Description:** Eye

**Options:** normal, abnormal,

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**Description** ESLIM_013_001_002 | v1.0

*simpleParameter*

- **Req. Analysis:** false
- **Req. Upload:** false
- **Is Annotated:** false

**Description:** Description

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**Left retina** ESLIM_013_001_003 | v1.0

*simpleParameter*

- **Req. Analysis:** false
- **Req. Upload:** false
- **Is Annotated:** true
**Left retina pigmentation** ESLIM_013_001_004 | v1.0

**Options:** normal, abnormal, no data,

**Left retina structure** ESLIM_013_001_005 | v1.0

**Options:** normal, degenerate, not defined, no data,

**Left optic disc** ESLIM_013_001_006 | v1.0

**Options:** normal, degenerate, not defined, no data,
Description: Left_Optic_Disc
Options: normal, abnormal, not defined, no data,

Right retina ESLIM_013_001_007 | v1.0
simpleParameter


Description: Right_Retina
Options: normal, abnormal, no data,

Right retina pigmentation ESLIM_013_001_008 | v1.0
simpleParameter


Description: Right_Retina_Pigmentation
Options: normal, abnormal, not defined, no data,

Right retina structure ESLIM_013_001_009 | v1.0
simpleParameter

**Description:** Right_Retina_Structure

**Options:** normal, degenerate, not defined, no data,
Left eye blood vessels pattern ESLIM_013_001_013 | v1.0

Right eye blood vessels ESLIM_013_001_014 | v1.0

Right eye blood vessels structure ESLIM_013_001_015 | v1.0
Right eye blood vessels pattern ESLIM_013_001_016 | v1.0

**Description**: Right Eye Blood Vessels Pattern

**Options**: normal, abnormal, not defined, no data,

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Digital image(s) ESLIM_013_001_017 | v1.0

**Description**: Digital Image(s)

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Body weight ESLIM_013_001_018 | v1.0

**Description**: Body weight
Unit Measured: g

Description: Body_Weight

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**Equipment name** ESLIM_013_001_801 | v1.0

**Equipment manufacturer** ESLIM_013_001_802 | v1.0

**Equipment model** ESLIM_013_001_803 | v1.0
**Topical agent(s)** ESLIM_013_001_804 | v1.0

**Description:** Topical_agent_s_

**Options:** atropine, tropicamide, atropine + neosynephrine, tropicamide + neosynephrine, tropicamide + phenylephrine,