

Eye Morphology ICSLA_EYE_002

Purpose

To detect abnormalities in eye morphology.

Experimental Design

- **Minimum number of animals** : 7M + 7F
- **Age at test:** Week 57
- **Sex:** We do not expect the results of this test to show sexual dimorphism

Procedure

1. Examine the anterior of both eyes (e.g. with slit lamp) and record any abnormalities
2. Test the iris/pupil light response
3. Image abnormal eyes as a minimum or all eyes if capacity permits
4. Dilate both eyes
5. Examine the anterior and posterior of both dilated eyes (e.g. with slit lamp and ophthalmoscope) and record any abnormalities
6. Image abnormal eyes as a minimum or all eyes if capacity permits

OCT:

1. Turn on the OCT and start the database
2. Anaesthetize mouse
3. Prepare mouse eyes with drops and place contact lens (focal length 10 mm) on the right eye
4. Enter mouse data in the "Create new patient file" area and switch to the "Acquisition" window
5. Move the OCT camera to the right position and activate measurement mode
6. Place mouse collaterally to the OCT camera on the right side of a platform that is fixed in front of the OCT lens
7. Search the contact lens in the live picture of the fundus image field and place the pupil of the mouse eye in the centre of the window
8. Move the OCT camera such that OCT lens and contact lens touch each other
9. Focus the fundus picture by slightly moving up/down or forward/backward
10. Save fundus images
11. Set the "Ref.Arm" ruler such that the section of the retina is placed in the centre of the blue rectangle
12. Set the mode of measurement on "vertical, horizontal line"
13. Move the blue horizontal line in the fundus image field to the optic nerve level
14. Save images of retinal sections
15. Move the OCT camera to the left position

16. Repeat measurement procedure for the left eye

Scheimpflug Imaging:

1. Turn on the Pentacam and start the patient data management
2. Apply one drop 0.5% Atropine to each mouse eye for pupil dilation
3. Enter mouse data in the “Patient” group box and switch to the Scan menu
4. Activate the “1 Picture” modus in the “Image Options” area
5. Move Pentacam to the right position
6. Hold the mouse on a platform such that the vertical LED 475 nm light slit is orientated in the center of the right eye ball
7. Guarantee optimal focus by using the fine adjustment software tool in the adjustment window
8. Start imaging manually by pressing the “Start Scan” button
9. Scheimpflug images are saved automatically
10. Move Pentacam to the left position
11. Repeat measurement procedure for the left eye

Notes

- As a minimum, all abnormalities should be imaged.
 - Where capacity permits, all mice can be imaged
- Majority of parameters can be analysed using the standard approach for assessing categorical data. To increase power for analysis purposes, where an abnormality is detected in the left, right or both eyes, the data may be combined to generate one "abnormal" category.

Data QC

Image QC is typically performed during data collection to ensure high quality images are captured whilst eyes are dilated etc.

Parameters and Metadata

Right vitreous humor thickness ICSLA_EYE_087_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: um

Optical Coherence Tomography Equipment Model

ICSLA_EYE_039_001 | v1.2

procedureMetadata

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

Options: Spectralis, Envisu R2200, EnvisuTM R-Series SDOIS,

Ophthalmoscope Equipment Model

ICSLA_EYE_035_001 | v1.2

procedureMetadata

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

Options: Genesis-DF, OMEGA 180 / Superfield NC, Genesis-D, Xenon Nova 175W light source + HOPKINS optic 1218AA /Nikon D5100 + 85 mm f/1.8 lens, Omega 500 Unplugged, Sigma 150K, Omega 180 / 60D, SL4 4AA, Genesis, Micron III,

Scheimpflug Equipment Manufacturer

ICSLA_EYE_041_001 | v1.4

procedureMetadata

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

Options: Oculus GmbH,

Scheimpflug description ICSLA_EYE_053_001 | v1.0

simpleParameter

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

Iris Pigmentation ICSLA_EYE_015_001 | v1.0

simpleParameter

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

Options: no data right eye, left eye abnormal, no data right eye, right eye abnormal,
no data for both eyes, both eyes abnormal, no data left eye,
no data left eye, right eye abnormal, left eye abnormal, normal,

Images Slit Lamp ICSLA_EYE_051_001 | v1.1

seriesMediaParameter

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

Slit Lamp observation ICSLA_EYE_028_001 | v1.1

simpleParameter

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

Eye Hemorrhage or Blood Presence ICSLA_EYE_003_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data right eye, present left eye, absent, present right eye, present both eyes, no data for both eyes, no data right eye, no data left eye, present right eye, present left eye, no data left eye,

B-scan of left retina ICSLA_EYE_073_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Ophthalmoscope Equipment ID ICSLA_EYE_033_001 | v1.2

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

VIP of left eye ICSLA_EYE_079_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Iris/Pupil ICSLA_EYE_010_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: right eye abnormal, no data right eye, left eye abnormal, normal, both eyes abnormal, no data left eye, no data left eye, right eye abnormal, no data right eye, left eye abnormal, no data for both eyes,

Eye ICSLA_EYE_001_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: absent left eye, absent right eye, absent both eyes, present,

Left inner nuclear layer ICSLA_EYE_069_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: um

Date Scheimpflug equipment last calibrated ICSLA_EYE_048_001 | v1.1

procedureMetadata

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

Topical Anesthetic ICSLA_EYE_044_001 | v1.1

procedureMetadata

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

Options: Mydriacyl, Phenylephrine hydrochloride, Atropine sulphate, No anesthesia, Oxybuprocain, Atropine, Hydrochloride,

Slit Lamp Equipment Manufacturer ICSLA_EYE_031_001 | v1.2

procedureMetadata

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

Options: Haag-Streit, Phoenix Research Labs, Kowa, CSO, Zeiss, MuLe, Topcon,

Dilation Method ICSLA_EYE_043_001 | v1.0

procedureMetadata

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

Options: None, Atropine sulphate, Cyclopentolate hydrochloride, Cyclopentolate hydrochloride+Phenylephrine hydrochloride, Tropicamide+Phenylephrin, Atropine, Tropicamide, Phenylephrine hydrochloride,

Scheimpflug Equipment ID ICSLA_EYE_040_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Ophthalmoscope Observation ICSLA_EYE_029_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Retina (combined) ICSLA_EYE_092_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Left vitreous humour thickness ICSLA_EYE_088_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: um

Sheimpflug Lens description ICSLA_EYE_052_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

B-scan of left cornea and lens ICSLA_EYE_077_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Narrow eye opening ICSLA_EYE_006_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data left eye, right eye abnormal, no data right eye, left eye abnormal, normal,
no data left eye, right eye abnormal, no data for both eyes, both eyes abnormal,
no data right eye, left eye abnormal,

Corneal mineralization ICSLA_EYE_084_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data left eye, present right eye, present left eye, absent, no data right eye, no data for both eyes, present both eyes, present right eye, no data left eye, no data right eye, present left eye,

Eyelid closure ICSLA_EYE_005_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data left eye, right eye closed, left eye closed, both eyes closed, no data for both eyes, no data right eye, left eye closed, normal, no data right eye, right eye closed, no data left eye,

Corneal ulcer ICSLA_EYE_085_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: present both eyes, no data right eye, absent, no data left eye, present right eye, present right eye, present left eye, no data right eye, present left eye, no data for both eyes, no data left eye,

Min left eye lens density ICSLA_EYE_054_001 | v1.2

simpleParameter

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

Unit Measured: %

Corneal vascularization ICSLA_EYE_009_001 | v1.0

simpleParameter

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

Options: present right eye, present left eye, absent, no data right eye, no data left eye, no data for both eyes, no data left eye, present right eye, no data right eye, present left eye, present both eyes,

Min right eye lens density ICSLA_EYE_057_001 | v1.1

simpleParameter

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

Unit Measured: %

Scheimpflug Equipment Model ICSLA_EYE_042_001 | v1.4

procedureMetadata

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

Options: Pentacam,

Slit Lamp Equipment ID ICSLA_EYE_030_001 | v1.2

procedureMetadata

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

Lens Opacity ICSLA_EYE_017_001 | v1.0

simpleParameter

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

Options: present both eyes, present left eye, present right eye, no data left eye, no data right eye, present left eye, no data left eye, present right eye, absent, no data for both eyes, no data right eye,

Right inner nuclear layer ICSLA_EYE_063_001 | v1.2

simpleParameter

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

Unit Measured: um

Persistence of hyaloid vascular system ICSLA_EYE_027_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data right eye, present left eye, no data for both eyes, no data left eye, present both eyes, no data left eye, present right eye, absent, no data right eye, present right eye, present left eye,

Synechia ICSLA_EYE_019_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data left eye, absent, present left eye, present right eye, no data left eye, present right eye, no data right eye, present left eye, no data right eye, present both eyes, no data for both eyes,

Fusion between cornea and lens ICSLA_EYE_018_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: present right eye, no data for both eyes, present left eye, absent, no data right eye, no data left eye, present right eye, present both eyes, no data right eye, present left eye, no data left eye,

Max right eye lens density ICSLA_EYE_058_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: %

Right posterior chamber depth ICSLA_EYE_065_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: um

Right total retinal thickness ICSLA_EYE_062_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: um

Right outer nuclear layer ICSLA_EYE_064_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: um

VIP of right fundus ICSLA_EYE_074_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Pupil Dilation ICSLA_EYE_013_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data left eye, right eye dilated, no data left eye,
no data right eye, left eye dilated, both eyes dilated, no data right eye, left eye dilated,
right eye dilated, normal, no data for both eyes,

Pupil Light Response ICSLA_EYE_014_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data left eye, right eye abnormal, right eye abnormal, no data for both eyes, left eye abnormal, no data left eye, no data right eye, left eye abnormal, normal, both eyes abnormal, no data right eye,

Vitreous ICSLA_EYE_083_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data for both eyes, no data right eye, left eye abnormal, no data left eye, normal, no data left eye, right eye abnormal, right eye abnormal, no data right eye, left eye abnormal, both eyes abnormal,

Images Ophthalmoscopy ICSLA_EYE_050_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

VIP of right eye ICSLA_EYE_078_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Left total retinal thickness ICSLA_EYE_068_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: um

Left eye diameter ICSLA_EYE_091_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: mm

Slit Lamp Equipment Model ICSLA_EYE_032_001 | v1.2

procedureMetadata

Req. Analysis: true

Req. Upload: false

Is Annotated: false

Options: SL 139, SL130, BQ 900 LED/IM-900, 30 SL-M, SL-15, SL-7E,
Micron III slit lamp extension, SL30, S350, SL 990,

Bulging eye ICSLA_EYE_002_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: present both eyes, present left eye, absent, no data left eye, present right eye, no data left eye, no data right eye, no data right eye, present left eye, no data for both eyes, present right eye,

Date Slit Lamp equipment last calibrated ICSLA_EYE_046_001 | v1

.1

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Date OCT equipment last calibrated ICSLA_EYE_049_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Pupil Shape ICSLA_EYE_012_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: normal, both eyes abnormal, right eye abnormal, left eye abnormal,
no data right eye, left eye abnormal, no data left eye, no data right eye,
no data left eye, right eye abnormal, no data for both eyes,

Cornea ICSLA_EYE_007_001 | v1.0

simpleParameter

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

Options: no data right eye, left eye abnormal, normal, no data left eye, right eye abnormal,
no data right eye, left eye abnormal, no data left eye, right eye abnormal,
both eyes abnormal, no data for both eyes,

Mean right eye lens density ICSLA_EYE_059_001 | v1.1

simpleParameter

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

Unit Measured: %

Lacrimation ICSLA_EYE_086_001 | v1.0

simpleParameter

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

Options: present both eyes, no data right eye, present left eye,
no data left eye, present right eye, present left eye, no data for both eyes, no data left eye,
no data right eye, absent, present right eye,

Retinal Blood Vessels Pattern ICSLA_EYE_026_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data right eye, both eyes abnormal, normal, no data for both eyes,
no data left eye, right eye abnormal, left eye abnormal, no data left eye,
no data right eye, left eye abnormal, right eye abnormal,

B-scan of right cornea and lens ICSLA_EYE_076_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Ophthalmoscope Lens Model ICSLA_EYE_089_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Corneal opacity ICSLA_EYE_008_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: no data for both eyes, no data right eye, present left eye, present right eye, no data left eye, present right eye, present left eye, no data right eye, absent, no data left eye, present both eyes,

B-scan of right retina ICSLA_EYE_072_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Mean left eye lens density ICSLA_EYE_056_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: %

Lens ICSLA_EYE_016_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: normal, no data left eye, right eye abnormal, right eye abnormal,
no data for both eyes, both eyes abnormal, no data left eye,
no data right eye, left eye abnormal, no data right eye, left eye abnormal,

Corneal Sclerization ICSLA_EYE_080_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data left eye, present right eye, present both eyes, no data right eye, absent,
present left eye, no data right eye, present left eye, no data for both eyes, no data left eye,
present right eye,

Date Ophthalmoscope equipment last calibrated ICSLA_EYE_047_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Left anterior chamber depth ICSLA_EYE_067_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: um

Iris transillumination ICSLA_EYE_082_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data right eye, left eye abnormal, no data right eye, no data left eye, no data for both eyes, no data left eye, right eye abnormal, right eye abnormal, left eye abnormal, normal, both eyes abnormal,

Retinal Blood Vessels ICSLA_EYE_024_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: no data right eye, left eye abnormal, no data right eye, no data left eye, right eye abnormal, both eyes abnormal, left eye abnormal, right eye abnormal, normal, no data for both eyes, no data left eye,

General Anesthetic ICSLA_EYE_045_001 | v1.1

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Options: Ketamine+Xylazine, Euthatal, Isoflurane, Avertin, No anesthesia,
Ketamine+Medetomidine,

Right anterior chamber depth ICSLA_EYE_061_001 | v1.2

simpleParameter

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

Unit Measured: um

Left outer nuclear layer ICSLA_EYE_070_001 | v1.2

simpleParameter

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

Unit Measured: um

Corneal deposits ICSLA_EYE_081_001 | v1.1

simpleParameter

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

Options: present right eye, absent, no data left eye, present right eye, no data for both eyes, no data left eye, present left eye, no data right eye, present left eye, present both eyes, no data right eye,

Retinal Blood Vessels Structure ICSLA_EYE_025_001 | v1.0

simpleParameter

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

Options: no data left eye, right eye abnormal, no data for both eyes, no data right eye, left eye abnormal, no data right eye, both eyes abnormal, normal, no data left eye, right eye abnormal, left eye abnormal,

Right eye diameter ICSLA_EYE_090_001 | v1.0

simpleParameter

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

Unit Measured: mm

Ophthalmoscope Equipment Manufacturer ICSLA_EYE_034_001
| v1.2

procedureMetadata

Req. Analysis: true

Req. Upload: false

Is Annotated: false

Options: Karl Storz / Nikon, Haag-Streit, Keeler LTD, Heine / Volk, Kowa, Phoenix, Phoenix Research Labs, Heine,

Optical Coherence Tomography Equipment Manufacturer

ICSLA_EYE_038_001 | v1.2

procedureMetadata

Req. Analysis: true

Req. Upload: false

Is Annotated: false

Options: Bioptigen, Heidelberg Engineering,

Max left eye lens density ICSLA_EYE_055_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: %

Optic Disc ICSLA_EYE_023_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: left eye abnormal, no data right eye, left eye abnormal, both eyes abnormal,
normal, no data left eye, right eye abnormal, no data right eye,
no data left eye, right eye abnormal, no data for both eyes,

VIP of left fundus ICSLA_EYE_075_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Eyelid morphology ICSLA_EYE_004_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no data for both eyes, normal, no data right eye,
no data right eye, left eye abnormal, right eye abnormal, no data left eye, left eye abnormal,
no data left eye, right eye abnormal, both eyes abnormal,

Left posterior chamber depth ICSLA_EYE_071_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: um

Right corneal thickness ICSLA_EYE_060_001 | v1.2

simpleParameter

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

Unit Measured: um

Experimenter ID ICSLA_EYE_036_001 | v1.1

procedureMetadata

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

Left corneal thickness ICSLA_EYE_066_001 | v1.2

simpleParameter

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

Unit Measured: um

Pupil Position ICSLA_EYE_011_001 | v1.0

simpleParameter

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

Options: right eye abnormal, no data left eye, right eye abnormal,
no data right eye, left eye abnormal, no data left eye, both eyes abnormal,
no data for both eyes, no data right eye, normal, left eye abnormal,

Optical Coherence Tomography Equipment ID ICSLA_EYE_037
_001 | v1.1

procedureMetadata

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