



# CMHD Pathology Report



## CMHD Pathology Core

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ReportID: Report Date: August 20, 2013  
Pathologist: Dr. H. Adissu

## Mouse Genetics Project

Wellcome Trust Sanger  
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Hinxton, Cambridge  
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UK

CMHD LabID: N13-490

## Relevant History:

Clinical phenotype

abnormal retinal pigmentation  
abnormal retina morphology

## AnimalID: M00688191 (Male)

### Histopathology Findings:

#### liver (MA:0000358)

##### Histopath Description:

diffuse lipidosis

##### Morphological Diagnosis:

**Distribution:** diffuse; **Severity:** severe; **MPATH Diagnosis:** steatosis MPATH:622

##### Definitive Diagnosis:

Hepatic lipidosis

#### thymus (MA:0000142)

##### Histopath Description:

There is a 50 um diameter epithelial cyst.

##### Morphological Diagnosis:

**Distribution:** focal; **MPATH Diagnosis:** cyst MPATH:62

##### Definitive Diagnosis:

Epithelial cyst

##### Histopathology Comments:

This is a developmental abnormality commonly seen in mice.

#### lymph node (MA:0000139)

##### Histopath Description:

Early lymphoma

##### Morphological Diagnosis:

**Distribution:** Diffuse; **MPATH Diagnosis:** hyperplasia MPATH:134

##### Definitive Diagnosis:

Early lymphoma

#### eye (MA:0000261)

##### Histopath Description:

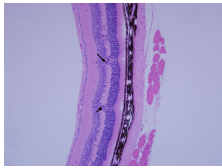
Involving one eye, there are clusters of external nuclear structures within the internal plexiform layer.

##### Morphological Diagnosis:

**Distribution:** multifocal; **Severity:** mild;

**Definitive Diagnosis:**

Retinal dysplasia



Eye, retina,  
dysplasia, 20x, HE

**Organ/Tissue Analyzed:**

Histopathology examination included the following organs and tissues: brain, trigeminal ganglion, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, exocrine and endocrine pancreas, oesophagus, stomach, small intestine, large intestine, liver, gall bladder, spleen, kidneys, adrenal gland, lymph nodes, spinal cord, bone marrow, sternum, femur and tibia with associated skeletal muscles, brown fat, pinna, skin, testis, epididymis, seminal vesicle, and prostate.

**AnimalID: M00688190 (Male)****Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

diffuse lipidosis

**Morphological Diagnosis:****Distribution:** diffuse; **Severity:** severe; **MPATH Diagnosis:** steatosis MPATH:622**Definitive Diagnosis:**

Hepatic lipidosis

**thymus (MA:0000142)****Histopath Description:**

There is a 50 um diameter epithelial cyst.

**Morphological Diagnosis:****Distribution:** focal; **MPATH Diagnosis:** cyst MPATH:62**Definitive Diagnosis:**

Epithelial cyst

**Histopathology Comments:**

This is a developmental abnormality commonly seen in mice.

**lymph node (MA:0000139)****Histopath Description:**

The mesenteric lymph node is markedly enlarged (greater than four fold). The medulla is particularly expanded by chords and sheets of plasmotoid cells. There are prominent germinal centers within the medulla

**Morphological Diagnosis:****Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134**Definitive Diagnosis:**

Lymphoid hyperplasia

**Histopathology Comments:**

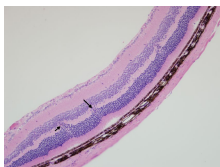
The changes in the mesenteric lymph node are suggestive of draining of a regional inflammatory process. However, such a process was not observed in the tissues examined. Early maginal center lymphoma is suspected.

**eye (MA:0000261)****Histopath Description:**

Involving one eye, there are clusters of external nuclear structures within the internal plexiform layer.

**Morphological Diagnosis:****Distribution:** multifocal; **Severity:** mild;**Definitive Diagnosis:**

Retinal dysplasia



Eye, retina,  
dysplasia, 20x, HE

### Organ/Tissue Analyzed:

Histopathology examination included the following organs and tissues: brain, trigeminal ganglion, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, exocrine and endocrine pancreas, oesophagus, stomach, small intestine, large intestine, liver, gall bladder, spleen, kidneys, adrenal gland, lymph nodes, spinal cord, bone marrow, sternum, femur and tibia with associated skeletal muscles, brown fat, pinna, skin, testis, epididymis, seminal vesicle, and prostate.

### AnimalID: M00713871 (Female)

#### Histopathology Findings:

##### liver (MA:0000358)

#### Histopath Description:

diffuse lipidosis

#### Morphological Diagnosis:

**Distribution:** diffuse; **Severity:** severe; **MPATH Diagnosis:** steatosis MPATH:622

#### Definitive Diagnosis:

Hepatic lipidosis

##### thymus (MA:0000142)

#### Histopath Description:

There is a 50 um diameter epithelial cyst.

#### Morphological Diagnosis:

**Distribution:** focal; **MPATH Diagnosis:** cyst MPATH:62

#### Definitive Diagnosis:

Epithelial cyst

#### Histopathology Comments:

This is a developmental abnormality commonly seen in mice.

##### lymph node (MA:0000139)

#### Histopath Description:

The mesenteric lymph node is markedly enlarged (greater than four fold). The medulla is particularly expanded by chords and sheets of plasmatoid cells. There are prominent germinal centers within the medulla

#### Morphological Diagnosis:

**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134

#### Definitive Diagnosis:

Lymphoid hyperplasia

#### Histopathology Comments:

The changes in the mesenteric lymph node are suggestive of draining of a regional inflammatory process. However, such a process was not observed in the tissues examined. Early maginal center lymphoma is suspected.

##### eye (MA:0000261)

#### Histopath Description:

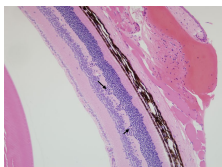
Involving one eye, there are clusters of external nuclear structures within the internal plexiform layer.

#### Morphological Diagnosis:

**Distribution:** multifocal; **Severity:** mild;

#### Definitive Diagnosis:

Retinal dysplasia



Eye, retina,  
dysplasia, 20x, HE

### Organ/Tissue Analyzed:

Histopathology examination included the following organs and tissues: brain, trigeminal ganglion, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, exocrine and endocrine pancreas, oesophagus, stomach, small intestine, large intestine, liver, gall bladder, spleen, kidneys, adrenal gland, lymph nodes, spinal cord, bone marrow, sternum, femur and tibia with associated skeletal muscles, brown fat, pinna, skin, uterus, oviduct, and ovary, and mammary gland.

### AnimalID: M00713863 (Female)

#### Histopathology Findings:

##### liver (MA:0000358)

#### Histopath Description:

diffuse lipidosis

#### Morphological Diagnosis:

**Distribution:** diffuse; **Severity:** severe; **MPATH Diagnosis:** steatosis MPATH:622

#### Definitive Diagnosis:

Hepatic lipidosis

##### lymph node (MA:0000139)

#### Histopath Description:

The mesenteric lymph node is markedly enlarged (greater than four fold). The medulla is particularly expanded by chords and sheets of plasmotoid cells. There are prominent germinal centers within the medulla

#### Morphological Diagnosis:

**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134

#### Definitive Diagnosis:

Lymphoid hyperplasia

#### Histopathology Comments:

The changes in the mesenteric lymph node are suggestive of draining of a regional inflammatory process. However, such a process was not observed in the tissues examined. Early marginal center lymphoma is suspected.

##### eye (MA:0000261)

#### Histopath Description:

A 100-um long stretch of fibrous connective tissue extends from the area of the optic disc towards the posterior capsule of the lens.

#### Morphological Diagnosis:

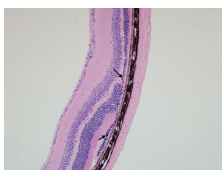
**MPATH Diagnosis:** developmental and structural abnormality MPATH:55

#### Definitive Diagnosis:

Persistent hyaloid artery

#### Histopathology Comments:

hyaloid artery remnant is a rare condition in which there remain some parts of the hyaloid artery. The posterior hyaloid vascular system of mice usually undergoes involution in the first month of life (Richard et al., 2000).



Eye, retina,  
dysplasia, 20x, HE

##### eye (MA:0000261)

#### Histopath Description:

In one eye, there are clusters of external nuclear structures within the internal plexiform layer. In

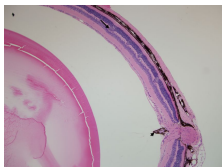
the other eye the inner nuclear layer is segmentally attenuated (hypoplastic); adjacent to this, there is an additional layer of inner nuclear layer embedded within the outer plexiform layer.

**Morphological Diagnosis:**

**Distribution:** multifocal; **Severity:** mild;

**Definitive Diagnosis:**

Retinal dysplasia



Eye, retina,  
dysplasia (large  
arrow); hyaloid  
artery remnant  
(small arrow), 20x,  
HE

**Organ/Tissue Analyzed:**

Histopathology examination included the following organs and tissues: brain, trigeminal ganglion, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, exocrine and endocrine pancreas, oesophagus, stomach, small intestine, large intestine, liver, gall bladder, spleen, kidneys, adrenal gland, lymph nodes, spinal cord, bone marrow, sternum, femur and tibia with associated skeletal muscles, brown fat, pinna, skin, uterus, oviduct, and ovary, and mammary gland.

**Report Summary and Recommendation:**

Mild unilateral or bilateral retinal dysplasia is observed in all mice. The lesion may explain the abnormal retinal morphology documented. We did not see abnormality in retinal pigmentation. Lymphoid hyperplasia or early lymphoma was noted in all mice. Other lesions are attributable to diet or strain background.

Summary: Retinal dysplasia (4/4); Lymphoid hyperplasia/lymphoma (4/4).