



# CMHD Pathology Report



## CMHD Pathology Core

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ReportID: Report Date: July 17, 2013  
Pathologist: Dr. H. Adissu

## Mouse Genetics Project

Wellcome Trust Sanger  
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Hinxton, Cambridge  
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CMHD LabID: N13-485

## Relevant History:

Phenotypes

increased circulating fructosamine level  
decreased susceptibility to bacterial infection  
preweaning lethality  
embryonic lethality

## AnimalID: M00905932 (Male)

### Histopathology Findings:

#### 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 five-fold). The medulla is expanded by chords and sheets of plasmacytoid cells.

##### Morphological Diagnosis:

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

##### Definitive Diagnosis:

Lymphoid hyperplasia with medullary plasmacytosis.

##### 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.

#### liver (MA:0000358)

##### Histopath Description:

diffuse lipidosis

##### Morphological Diagnosis:

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

##### Definitive Diagnosis:

Hepatic lipidosis

#### brain (MA:0000168)

**Histopath Description:**

There is mild dilation of the lateral ventricles

**Morphological Diagnosis:**

**Distribution:** bilateral; **Severity:** mild;

**Definitive Diagnosis:**

Dilation of the brain ventricles

**Histopathology Comments:**

Mild dilation of the lateral ventricles is a background condition in mice of C57BL/6N background (Brayton et al., 2004).

**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.

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**AnimalID: M00905929 (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

**stomach (MA:0000353)****Histopath Description:**

moderate neutrophilic gastritis; there is also mild epithelial proteinosis

**Morphological Diagnosis:**

**Distribution:** multifocal; **Severity:** moderate;

**Definitive Diagnosis:**

Moderate neutrophilic gastritis with epithelial proteinosis

**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.

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**AnimalID: M00937959 (Female)****Histopathology Findings:****thymus (MA:0000142)****Histopath Description:**

There is a 1 mm 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 five-fold). The medulla is expanded by chords and sheets of plasmotoid cells.

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

Lymphoid hyperplasia with medullary plasmacytosis.

**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.

**liver (MA:0000358)****Histopath Description:**

diffuse lipidosis

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

Hepatic lipidosis

**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).

**brain (MA:0000168)****Histopath Description:**

There is mild dilation of the lateral ventricles

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

Dilation of the brain ventricles

**Histopathology Comments:**

Mild dilation of the lateral ventricles is a background condition in mice of C57BL/6N background (Brayton et al., 2004).

**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.

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**AnimalID: M00924470 (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

**retina (MA:0000276)**

**Histopath Description:**

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

**Morphological Diagnosis:**

**Distribution:** Focal; **Severity:** mild;

**Definitive Diagnosis:**

Retinal dysplasia

**brain (MA:0000168)****Histopath Description:**

There is mild dilation of the lateral ventricles

**Morphological Diagnosis:**

**Distribution:** bilateral; **Severity:** mild;

**Definitive Diagnosis:**

Dilation of the brain ventricles

**Histopathology Comments:**

Mild dilation of the lateral ventricles is a background condition in mice of C57BL/6N background (Brayton et al., 2004).

**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:**

Lesions in this line are attributable to diet or strain background. There are no findings predictive of preweaning and embryonic lethality in this line; histopathology analysis of earlier age or embryos is recommended. We also did not observe morphological correlates to increased circulating fructosamine level and decreased susceptibility to bacterial infection.

Line summary: None