



# CMHD Pathology Report



## CMHD Pathology Core

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ReportID: Report Date: February 20,  
2014  
Pathologist: Dr. H. Adissu

## Mouse Genetics Project

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[Mouse Portal](#)  
[Europhenome](#)

CMHD LabID: N13-924

## Relevant History:

Phenotype  
Increased circulating creatinine level  
increased susceptibility to bacterial infection  
preweaning lethality  
preweaning lethality

AnimalID: M00364495 (Male)

## Histopathology Findings:

### liver (MA:0000358)

#### Histopath Description:

diffuse lipidosis

#### Morphological Diagnosis:

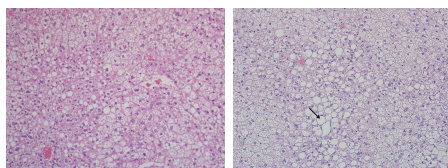
**Distribution:** diffuse; **Severity:** extreme; **MPATH Diagnosis:** steatosis MPATH:622; **MPATH Process Term:** lipid deposition MPATH:42

#### Definitive Diagnosis:

Hepatic lipidosis

#### Histopathology Comments:

This is dietary steatosis



Liver, severe  
lipidosis, 20x, HE

Liver, Wt, severe  
lipidosis, 20x, HE

## lymph node (MA:0000139)

#### Histopath Description:

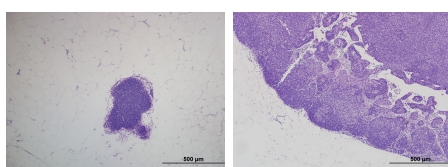
The mesenteric lymph nodes is small.

#### Morphological Diagnosis:

**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hypoplasia MPATH:133; **MPATH Process Term:** hypoplasia MPATH:133

#### Definitive Diagnosis:

Lymphoid hypoplasia



Mesenteric lymph  
node, lymphoid

Mesenteric lymph  
node, WT, normal,

hypoplasia, 10x, HE 10x, HE

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

There is moderate dilation of the fourth ventricle

**Morphological Diagnosis:****Distribution:** diffuse; **Severity:** moderate; **MPATH Process Term:** degenerative change  
MPATH:14**Definitive Diagnosis:**

Dilation of the brain ventricles

**Histopathology Comments:**

Mild dilation of the ventricles is a background condition in mice of C57BL/6N background

**Organ/Tissue Analyzed:**

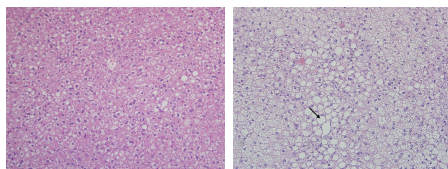
Histopathology examination included the following organs and tissues: brain, trigeminal ganglion, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, exocrine and endocrine pancreas, oesophagus, stomach, small intestine, large intestine, liver, gall bladder, spleen, 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: M00364482 (Male)****Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

Mild lipidosi

**Morphological Diagnosis:****Distribution:** multifocal; **Severity:** mild; **MPATH Diagnosis:** lipid deposition MPATH:42; **MPATH Process Term:** lipid deposition MPATH:42**Definitive Diagnosis:**

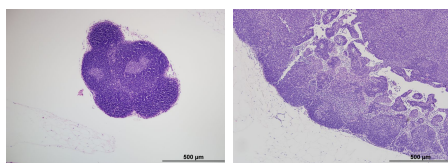
Minimal hepatic lipidosi

Liver, minimal  
lipidosi, 20x, HELiver, Wt, severe  
lipidosi, 20x, HE**lymph node (MA:0000139)****Histopath Description:**

The mesenteric lymph nodes is small.

**Morphological Diagnosis:****Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hypoplasia MPATH:133; **MPATH Process Term:** hypoplasia MPATH:133**Definitive Diagnosis:**

Lymphoid hypoplasia

Mesenteric lymph  
node, lymphoid  
hypoplasia, 10x, HEMesenteric lymph  
node, WT, normal,  
10x, HE**spleen (MA:0000141)****Histopath Description:**

Mild erythropoiesis-

**Morphological Diagnosis:****Distribution:** multifocal to coalescing; **Severity:** mild; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595; **MPATH Process Term:** hyperplasia MPATH:134**Definitive Diagnosis:**

Mild erythropoiesis-

### brain (MA:0000168)

#### Histopath Description:

There is moderate dilation of the fourth ventricle

#### Morphological Diagnosis:

**Distribution:** diffuse; **Severity:** moderate; **MPATH Process Term:** degenerative change MPATH:14

#### Definitive Diagnosis:

Dilation of the brain ventricles

#### Histopathology Comments:

Mild dilation of the ventricles is a background condition in mice of C57BL/6N background

### sternum (MA:0001331)

#### Histopath Description:

There is a full thickness fissure (fracture) within the sternal cartilage between the 4th and 5th sternabrae. The fractured segments are malaligned and protrude into the thoracic cavity. The fractures is accompanied by necrotic chromatin smear and multifocal degeneration and necrosis of the sternal cartilage. Within the adjacent soft tissue is focally extensive mild infiltration of neutrophils and mononuclear inflammatory cells accompanied by hemorrhage and fibroplasia. There is marked nodular hyperplasia of the cartilage tissue surrounding the fracture

#### Morphological Diagnosis:

**Duration:** chronic-active; **Distribution:** focally extensive; **Severity:** extreme; **MPATH Process Term:** degenerative change MPATH:14

#### Definitive Diagnosis:

Sternal osteoarthritis with sternal fracture with fibroplasia

### 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: M00506519 (Female)

#### Histopathology Findings:

##### liver (MA:0000358)

#### Histopath Description:

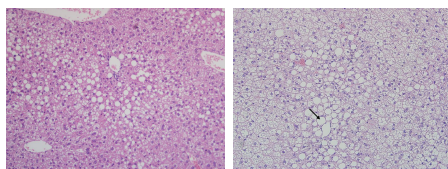
moderate lipidosi

#### Morphological Diagnosis:

**Distribution:** multifocal to coalescing; **Severity:** moderate; **MPATH Diagnosis:** steatosis MPATH:622; **MPATH Process Term:** lipid deposition MPATH:42

#### Definitive Diagnosis:

Hepatic lipidosi



Liver, moderate lipidosi, 20x, HE

Liver, Wt, severe lipidosi, 20x, HE

### spleen (MA:0000141)

#### Histopath Description:

Moderate erythropoiesis-

#### Morphological Diagnosis:

**Distribution:** multifocal to coalescing; **Severity:** moderate; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595; **MPATH Process Term:** hyperplasia MPATH:134

#### Definitive Diagnosis:

Moderate erythropoiesis

**mesenteric lymph node (MA:0002829)****Histopath Description:**

Not found in section

**Histopathology Comments:**

The mesenteric lymph node was not found in section

**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: M00506518 (Female)****Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

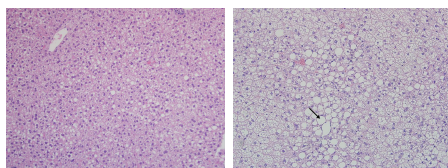
Mild lipidosis

**Morphological Diagnosis:**

**Distribution:** multifocal; **Severity:** mild; **MPATH Diagnosis:** lipid deposition MPATH:42; **MPATH Process Term:** lipid deposition MPATH:42

**Definitive Diagnosis:**

Minimal hepatic lipidosis



Liver, minimal lipidosis, 20x, HE

Liver, Wt, severe lipidosis, 20x, HE

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

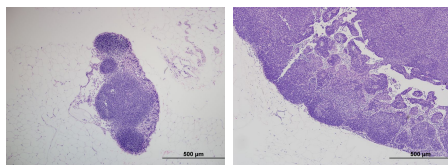
The mesenteric lymph nodes is small.

**Morphological Diagnosis:**

**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hypoplasia MPATH:133; **MPATH Process Term:** hypoplasia MPATH:133

**Definitive Diagnosis:**

Lymphoid hypoplasia



Mesenteric lymph node, lymphoid hypoplasia, 10x, HE

Mesenteric lymph node, WT, normal, 10x, HE

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

There is moderate dilation of the fourth ventricle

**Morphological Diagnosis:**

**Distribution:** diffuse; **Severity:** moderate; **MPATH Process Term:** degenerative change MPATH:14

**Definitive Diagnosis:**

Dilation of the brain ventricles

**Histopathology Comments:**

Mild dilation of the ventricles is a background condition in mice of C57BL/6N background

**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:**

Minimal to moderate hepatic lipidosis is observed in three mice. The mesenteric lymph nodes are small in three of the mice and not found in the fourth. This suggests potential lymphoid hypoplasia. However, this finding should be interpreted with caution as it is based on a single section of a single lymph node (hence may be explained by sampling or sectional variations). If this is a true lymphoid hypoplasia, the lesion correlates with increased susceptibility to bacterial infection in this line. We did not find lesions to predict preweaning and embryonic lethality in homozygotes. Analysis of homozygous preweaning animals and embryonic stages is recommended to determine cause of death. We did not find morphological correlates to increased circulating creatinine level.

Line summary:

Liver: Minimal lipidosis (2/4)

Mesenteric lymph node - lymphoid hypoplasia (3/4)