



# CMHD Pathology Report



## CMHD Pathology Core

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## Mouse Genetics Project

Wellcome Trust Sanger  
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Hinxton, Cambridge  
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UK

CMHD LabID: N13-572

## Relevant History:

Phenotype:  
decreased circulating amylase level  
preweaning lethality  
embryonic lethality

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## AnimalID: M00526368 (Male)

### Histopathology Findings:

#### liver (MA:0000358)

##### Histopath Description:

diffuse lipidosis

##### Morphological Diagnosis:

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

##### Definitive Diagnosis:

hepatic steatosis

#### 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.

#### spleen (MA:0000141)

##### Histopath Description:

moderate erythropoiesis

##### Morphological Diagnosis:

**Distribution:** multifocal to coalescing; **Severity:** moderate; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595

##### Definitive Diagnosis:

Moderate erythropoiesis

#### bone marrow (MA:0000134)

##### Histopath Description:

Erythroid to myeloid ratio is 1:2 (compared to the average 1:4 ratio in WT mice).

**Morphological Diagnosis:**

**Severity:** mild;

**Definitive Diagnosis:**

Erythroid hyperplasia

**eye (MA:0000261)**

**Histopath Description:**

Involving one eye, the anterior part of the retina in one eye has focally extensive fold and the outer nuclear layer is attenuated.

**Morphological Diagnosis:**

**Distribution:** focally extensive; **Severity:** mild;

**Definitive Diagnosis:**

Retinal dysplasia

**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: M00526370 (Male)**

**Histopathology Findings:**

**liver (MA:0000358)**

**Histopath Description:**

diffuse lipidosis

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

hepatic steatosis

**lymph node (MA:0000139)**

**Histopath Description:**

early lymphoma

**Morphological Diagnosis:**

**MPATH Diagnosis:** lymphoid neoplasms MPATH:513

**Definitive Diagnosis:**

Early lymphoma

**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).

**pancreas (MA:0000120)**

**Histopath Description:**

There is a focal inflammation centered on a pancreatic duct

**Morphological Diagnosis:**

**Distribution:** focal; **Severity:** mild;

**Definitive Diagnosis:**

Focal pancreatitis

**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: M00526319 (Female)****Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

diffuse lipidosis

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

hepatic steatosis

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

There are two 50 um diameter epithelial cysts.

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Epithelial cyst

**Histopathology Comments:**

This is a developmental abnormality commonly seen in mice.

**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: M00526367 (Female)****Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

diffuse lipidosis

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

hepatic steatosis

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

early lymphoma

**Morphological Diagnosis:**

**MPATH Diagnosis:** lymphoid neoplasms MPATH:513

**Definitive Diagnosis:**

Early lymphoma

**spleen (MA:0000141)****Histopath Description:**

moderate erythropoiesis

**Morphological Diagnosis:**

**Distribution:** multifocal to coalescing; **Severity:** moderate; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595

**Definitive Diagnosis:**

Moderate erythropoiesis

**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).

**adrenal gland (MA:0000116)****Histopath Description:**

There is a small, well-circumscribed mass in the cortex. It is encapsulated by a thin layer of pale eosinophilic material and fusiform cells (connective tissue with fibroblasts) and is made of nests of polygonal cells interspersed by a very thin fibrovascular membrane. The architecture is reminiscent of the zona glomerulosa and zona fasciculate of the mature adrenal gland.

**Morphological Diagnosis:**

**Distribution:** focal;

**Definitive Diagnosis:**

accessory adrenal cortical tissue

**bone marrow (MA:0000134)****Histopath Description:**

Erythroid to myeloid ratio is 1:1 (compared to the average 1:4 ratio in WT mice).

**Morphological Diagnosis:**

**Severity:** severe;

**Definitive Diagnosis:**

Erythroid hyperplasia

**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:**

Two mice had early lymphoma of the mesenteric lymph nodes. Erythroid hyperplasia was observed in two mice. There are no lesions that are predictive of embryonic or preweaning lethality in homozygous mice. Prenatal and peri-weaning analysis of homozygotes may reveal causes of mortality. Other lesions are incidental or attributable to diet or strain background.

Line summary: Early lymphoma (2/4); Erythroid hyperplasia of the bone marrow and spleen (2/4)