



# CMHD Pathology Report



## CMHD Pathology Core

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ReportID: Report Date: March 12, 2013  
Pathologist: H. Adissu

## Mouse Genetics Project

Wellcome Trust Sanger  
Institute  
Wellcome Trust Genome  
Campus  
Hinxton, Cambridge  
CB10 1SA  
UK

CMHD LabID: N12-1517

### Relevant History:

abnormal fertility/fecundity  
increased aggression  
increased susceptibility to bacterial infection

### AnimalID: M00241275 (Male)

#### Tissue Preservation and Staining:

Thyroid gland not present

#### Histopathology Findings:

##### spleen (MA:0000141)

##### Histopath Description:

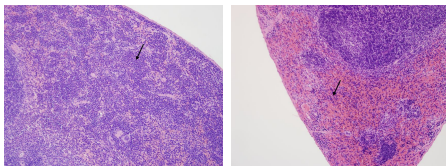
moderate erythroid extramedullary hematopoiesis

##### Morphological Diagnosis:

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

##### Definitive Diagnosis:

moderate erythroid extramedullary hematopoiesis



Spleen, moderate  
extramedullary  
hematopoiesis  
(erythroid), 20x

Spleen, wildtype,  
normal, note  
minimal  
hematopoiesis in  
red pulp, 20x

### lymph node (MA:0000139)

#### Histopath Description:

The mesenteric lymph node is enlarged (greater than three-fold). There are multiple follicles with large germinal centers. The sinuses contain large numbers of mature lymphocytes and plasma cells

#### Morphological Diagnosis:

**Duration:** Sub-acute; **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.

### liver (MA:0000358)

**Histopath Description:**

Diffuse lipidosis

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

Diffuse hepatic steatosis

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

Mild hydrocephalus.

**Morphological Diagnosis:****MPATH Diagnosis:** hydrocephalus MPATH:639**Definitive Diagnosis:**

Mild hydrocephalus of the lateral ventricles

**knee joint (MA:0000471)****Histopath Description:**

there is mild fibrillation of the femoral articular surface

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

Mild joint degeneration

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**AnimalID: M00241270 (Male)****Tissue Preservation and Staining:**

Small piece of the thymus is present

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

minimal extramedullary hematopoiesis (mainly erythroid)

**Morphological Diagnosis:****Severity:** mild; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595**Definitive Diagnosis:**

Minimal erythropoiesis

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

The mesenteric lymph node is enlarged (greater than three-fold). There are multiple follicles with large germinal centers. The sinuses contain large numbers of mature lymphocytes.

**Morphological Diagnosis:****Duration:** Sub-acute; **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.

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

Diffuse lipidosis

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

Diffuse hepatic steatosis

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

Mild hydrocephalus.

**Morphological Diagnosis:**

**MPATH Diagnosis:** hydrocephalus MPATH:639

**Definitive Diagnosis:**

Mild hydrocephalus of the lateral ventricles

**kidney (MA:0000368)****Histopath Description:**

There is a cortical indent (collapse). There is extensive tubular hyperplasia that extends from this focus into the deep medulla and pelvis. There are moderate numbers of mononuclear inflammatory cells along the proliferating tubules.

**Morphological Diagnosis:**

**Duration:** chronic; **Distribution:** multifocal; **Severity:** severe;

**Definitive Diagnosis:**

The lesion is typical for old infarct and subsequent tubular regenerative hyperplasia

**pancreas (MA:0000120)****Histopath Description:**

There are occasional aggregates of mononuclear inflammatory cells within the interstitium

**Morphological Diagnosis:**

**Duration:** chronic; **Distribution:** multifocal; **Severity:** mild;

**Definitive Diagnosis:**

Interstitial lymphocytic aggregates

**dorsal root ganglion (MA:0000232)****Histopath Description:**

There is marked vacuolation of a single neuron within the dorsal root ganglion

**Morphological Diagnosis:**

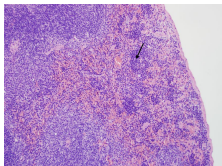
**Distribution:** focal; **Severity:** mild;

**Definitive Diagnosis:**

Vacuolation, single neuron

**Histopathology Comments:**

The significance of this lesion is uncertain



Spleen, minimal  
extramedullary  
hematopoiesis, 20x

**AnimalID: M00241271 (Female)****Histopathology Findings:****lymph node (MA:0000139)****Histopath Description:**

The mesenteric lymph node is enlarged (greater than three-fold). There are multiple follicles with large germinal centers. The sinuses contain large numbers of mature lymphocytes.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **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.

#### parathyroid gland (MA:0000128)

##### Histopath Description:

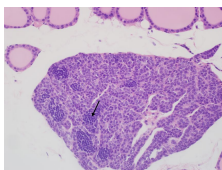
There are aggregates of lymphocytes within the interstitium.

##### Morphological Diagnosis:

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

##### Definitive Diagnosis:

Lymphocytic aggregate



Parathyroid gland,  
lymphocyte  
aggregates, 40x

#### liver (MA:0000358)

##### Histopath Description:

Diffuse lipidosis

##### Morphological Diagnosis:

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

##### Definitive Diagnosis:

Diffuse hepatic steatosis

#### brain (MA:0000168)

##### Histopath Description:

Mild hydrocephalus.

##### Morphological Diagnosis:

**MPATH Diagnosis:** hydrocephalus MPATH:639

##### Definitive Diagnosis:

Mild hydrocephalus of the lateral ventricles

#### spleen (MA:0000141)

##### Histopath Description:

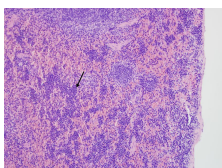
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##### Morphological Diagnosis:

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##### Definitive Diagnosis:

moderate erythroid extramedullary hematopoiesis



Spleen, moderate  
extramedullary  
hematopoiesis  
(erythroid), 20x

#### stomach (MA:0000353)

##### Histopath Description:

moderate neutrophilic gastritis

##### Morphological Diagnosis:

**Distribution:** multifocal to coalescing; **Severity:** moderate;

##### Definitive Diagnosis:

Gastritis, neutrophilic

**mammary gland (MA:0000145)****Histopath Description:**

There are moderate numbers of lymphocytes and occasional neutrophils within the mammary interstitium

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Mastitis

**AnimalID: M00241308 (Female)****Histopathology Findings:****spleen (MA:0000141)****Histopath Description:**

minimal extramedullary hematopoiesis (mainly erythroid)

**Morphological Diagnosis:**

**Severity:** mild; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595

**Definitive Diagnosis:**

Minimal erythropoiesis

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

The mesenteric lymph node is enlarged (greater than three-fold). There are multiple follicles with large germinal centers. The sinuses contain large numbers of mature lymphocytes and plasma cells

**Morphological Diagnosis:**

**Duration:** Sub-acute; **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.

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

Diffuse lipidosis

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Diffuse hepatic steatosis

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

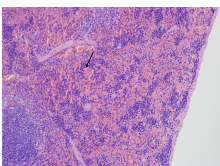
Mild hydrocephalus.

**Morphological Diagnosis:**

**MPATH Diagnosis:** hydrocephalus MPATH:639

**Definitive Diagnosis:**

Mild hydrocephalus of the lateral ventricles



Spleen, minimal extramedullary

hematopoiesis, 20x

**Report Summary and Recommendation:**

Two mice had moderate splenic erythroid hyperplasia. This finding may be significant considering the role of the gene in hematopoiesis. The gene, Gif, is implicated in congenital pernicious anemia. Other lesions are considered incidental attributable to diet and/or strain background.