



# CMHD Pathology Report



## CMHD Pathology Core

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## Mouse Genetics Project

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CMHD LabID: N12-1519

## Relevant History:

Phenotype:

- increased red blood cell distribution width
- increased mean platelet volume

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## AnimalID: M00316173 (Male)

### Tissue Preservation and Staining:

Lymph node present in sections; the skin is fragmented

### Histopathology Findings:

#### liver (MA:0000358)

##### Histopath Description:

Diffuse lipidosis

##### Morphological Diagnosis:

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

##### Definitive Diagnosis:

Diffuse hepatic steatosis

#### kidney (MA:0000368)

##### Histopath Description:

There is multifocal lymphocyte and macrophage infiltrates within the renal pelvis

##### Morphological Diagnosis:

**Distribution:** Multifocal to coalescing; **Severity:** mild; **MPATH Diagnosis:** inflammation MPATH:212

##### Definitive Diagnosis:

Chronic pyelitis

#### brain (MA:0000168)

##### Histopath Description:

Mild hydrocephalus.

##### Morphological Diagnosis:

**MPATH Diagnosis:** hydrocephalus MPATH:639

##### Definitive Diagnosis:

Mild hydrocephalus of the lateral ventricles

#### testis (MA:0000411)

##### Histopath Description:

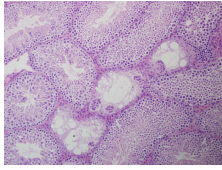
There are multifocal vacuolar degeneration and atrophy of the seminiferous tubules. There are multiple large multinucleated spermatids in the affected segment.

##### Morphological Diagnosis:

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

**Definitive Diagnosis:**

Testicular degeneration and atrophy



Testis,  
degeneration and  
atrophy, note  
multinucleated  
spermatids, 40x

**stomach (MA:0000353)**

**Histopath Description:**

moderate neutrophilic gastritis

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Gastritis, neutrophilic

**bone marrow (MA:0000134)**

**Histopath Description:**

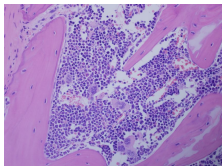
The number of megakaryocytes is reduced (compared to wild type). Occasional atypical megakaryocytes with disjunct nuclei are present.

**Morphological Diagnosis:**

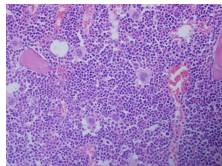
**Severity:** mild;

**Definitive Diagnosis:**

Megakaryocyte hypoplasia



Bone marrow,  
megakaryocyte  
hypoplasia, note  
large atypical  
megakaryocytes,  
40x



Bone marrow from  
wild type control,  
40x

**AnimalID: M00507474 (Male)**

**Tissue Preservation and Staining:**

the skin is fragmented

**Histopathology Findings:**

**brown fat (MA:0000057)**

**Histopath Description:**

There is focally extensive hyperplasia of brown fat infiltrated with low numbers of inflammatory cells (lymphocytes, macrophages and rare neutrophils)

**Morphological Diagnosis:**

**Duration:** Chronic-active; **Distribution:** Focal; **Severity:** mild; **MPATH Diagnosis:** steatitis  
MPATH:636

**Definitive Diagnosis:**

Steatitis with hyperplasia

**heart (MA:0000072)**

**Histopath Description:**

There is a focal inflammation at the apex of the heart characterized by low numbers of macrophages and lymphocytes, and mild fibroplasia.

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

Focal right ventricular myocarditis

**Histopathology Comments:**

The lesion is focal and minimal; idiopathic myocarditis is occasionally seen in rodents.

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

Mild hydrocephalus.

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

Mild hydrocephalus of the lateral ventricles

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

Diffuse lipodosis

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

Diffuse hepatic steatosis

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

Lymphoid follicles are enlarged and most contain germinal centers

**Morphological Diagnosis:****Distribution:** multifocal; **Severity:** moderate; **MPATH Diagnosis:** lymphoid hyperplasia MPATH:147**Definitive Diagnosis:**

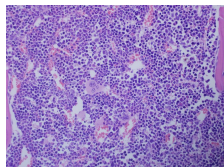
Lymphoid hyperplasia

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

The number of megakaryocytes is reduced (compared to wild type). Occasional atypical megakaryocytes with dispersed nuclei are present.

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

Megakaryocyte hypoplasia



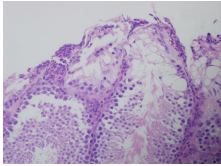
Bone marrow,  
megakaryocyte  
hypoplasia, 40x

**testis (MA:0000411)****Histopath Description:**

There are multifocal vacuolar degeneration and atrophy of the seminiferous tubules

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

Testicular degeneration and atrophy



Testis,  
degeneration and  
atrophy, note  
multinucleated  
spermatids, 40x

#### **bone marrow (MA:0000134)**

##### **Histopath Description:**

The number of megakaryocytes is reduced (compared to wild type). Occasional atypical megakaryocytes with dis fused nuclei are present.

##### **Morphological Diagnosis:**

**Severity:** mild;

##### **Definitive Diagnosis:**

Megakaryocyte hypoplasia

#### **AnimalID: M00507476 (Female)**

##### **Tissue Preservation and Staining:**

Lymph node present in sections

##### **Histopathology Findings:**

#### **liver (MA:0000358)**

##### **Histopath Description:**

Moderate lipidosis

##### **Morphological Diagnosis:**

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

#### **AnimalID: M00507477 (Female)**

##### **Histopathology Findings:**

#### **brown fat (MA:0000057)**

##### **Histopath Description:**

There is focally extensive hyperplasia of brown fat infiltrated with low numbers of inflammatory cells (lymphocytes, macrophages and rare neutrophils)

##### **Morphological Diagnosis:**

**Duration:** Chronic-active; **Distribution:** Focal; **Severity:** mild; **MPATH Diagnosis:** steatitis MPATH:636

##### **Definitive Diagnosis:**

Steatitis with hyperplasia

#### **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.

**brain (MA:0000168)**

**Histopath Description:**

Mild hydrocephalus.

**Morphological Diagnosis:**

**MPATH Diagnosis:** hydrocephalus MPATH:639

**Definitive Diagnosis:**

Mild hydrocephalus of the lateral ventricles

**liver (MA:0000358)**

**Histopath Description:**

Moderate lipidosis

**Morphological Diagnosis:**

**Distribution:** multifocal; **Severity:** moderate; **MPATH Diagnosis:** steatosis MPATH:622

**Definitive Diagnosis:**

Diffuse hepatic steatosis

**adrenal gland (MA:0000116)**

**Histopath Description:**

In one of the adrenal glands, there is a focally extensive stream of subcapsular spindle cell proliferation that segmentally displaces the superficial cortical layer.

**Morphological Diagnosis:**

**Distribution:** Multifocal; **Severity:** mild;

**Definitive Diagnosis:**

Spindle cell hyperplasia.

**Histopathology Comments:**

Proliferation of subcortical spindle cells, with displacement of the cortex, is common in mice of all ages. The function of these cells is not known. Pituitary is not present in submission to assess the presence of pituitary dependent adrenocortical hyperplasia.

**retina (MA:0000276)**

**Histopath Description:**

There is a focally extensive folding of the retina at the optic nerve.

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Retinal folding (dysplasia)

**Report Summary and Recommendation:**

Mild megakaryocyte hypoplasia was observed in two male mice (M00316173 and M00507474) with occasional atypia in the former. The clinical phenotypes observed in this line (increased red blood cell distribution width and increased mean platelet volume) are suggestive regenerative erythropoiesis and thrombocytosis. Testicular degeneration and atrophy was observed in both males ((M00316173 and M00507474). Other lesions are considered incidental and attributable to diet or strain background.