



# CMHD Pathology Report



## CMHD Pathology Core

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ReportID: Report Date: January 28, 2014  
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## Mouse Genetics Project

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

CMHD LabID: N13-910

## Relevant History:

Phenotypes:

MP:0010053 decreased grip strength  
MP:0002968 increased circulating alkaline phosphatase level  
MP:0005478 decreased circulating thyroxine level  
MP:0000194 hypercalcemia  
MP:0000221 decreased leukocyte cell number  
MP:0005017 decreased B cell number  
MP:0000322 increased granulocyte number  
MP:0004973 increased regulatory T cell number

## AnimalID: M00981439 (Male)

### Histopathology Findings:

#### spleen (MA:0000141)

#### Histopath Description:

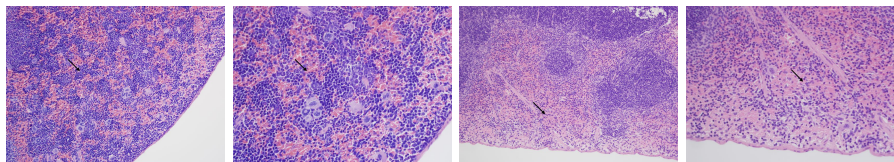
There is marked erythroid and moderate granulocytic and megagaryocytic hyperplasia

#### Morphological Diagnosis:

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

#### Definitive Diagnosis:

Trilineage extramedullary hematopoiesis - moderate to marked



Spleen, Trilineage  
extramedullary  
hematopoiesis ,  
20x, HE

Spleen, Trilineage  
extramedullary  
hematopoiesis ,  
40x, HE

Spleen, wildtype,  
normal, 20x, HE.

Spleen, wildtype,  
normal, 40x, HE.

#### bone marrow (MA:0000134)

#### Histopath Description:

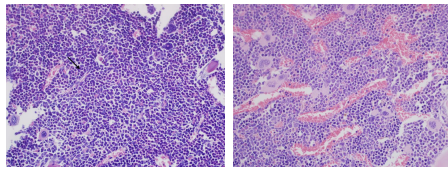
Moderate granulocytic hyperplasia

#### Morphological Diagnosis:

**Distribution:** diffuse; **Severity:** moderate; **MPATH Process Term:** hyperplasia MPATH:134

#### Definitive Diagnosis:

Granulocytic hyperplasia



Bone marrow,  
granulocytic  
hyperplasia, 40x,  
HE

Bone marrow,  
wildtype, normal,  
40x, HE

### 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;  
**MPATH Process Term:** 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.

### Lymph node (MA:0000139)

#### Histopath Description:

Lymphoid hyperplasia with marked sinus plasmacytosis

#### Morphological Diagnosis:

**Distribution:** diffuse; **Severity:** severe; **MPATH Process Term:** hyperplasia MPATH:134

#### Definitive Diagnosis:

Lymphoid hyperplasia with sinus plasmacytosis

### 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: M01030001 (Male)

#### Histopathology Findings:

##### spleen (MA:0000141)

#### Histopath Description:

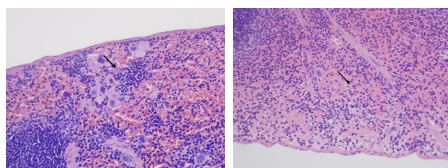
Mild megakaryocyte hyperplasia

#### Morphological Diagnosis:

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

#### Definitive Diagnosis:

Megakaryocytic hyperplasia



Spleen,  
Megakaryocytic  
hyperplasia, 40x,  
HE.

Spleen, wildtype,  
normal, 40x, HE.

### 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: M00981432 (Female)**

**Histopathology Findings:**

**spleen (MA:0000141)**

**Histopath Description:**

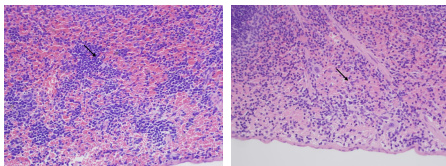
Mild erythroid hyperplasia

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Erythroid hyperplasia



Spleen, Erythroid hyperplasia, 40x, HE

Spleen, wildtype, normal, 40x, HE.

**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: M00981431 (Female)**

**Histopathology Findings:**

**spleen (MA:0000141)**

**Histopath Description:**

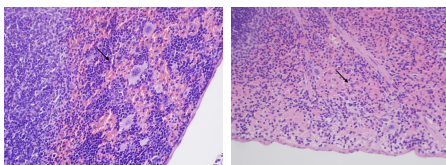
There is marked erythroid and moderate granulocytic and megagaryocytic hyperplasia

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Trilineage extramedullary hematopoiesis - moderate to marked



Spleen, Trilineage extramedullary hematopoiesis , 40x, HE

Spleen, wildtype, normal, 40x, HE.

**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:**

Mian findings in this line are mild to moderate increase in splenic hematopoietic population (extramedullary

hematopoiesis) in all mice and a corresponding bonemarrow granulocytic hyperplasia in one mouse. These changes may explain the increased granulocyte number observed in this line. Hyperplasia of the mesenteric and inguinal lymph nodes was observed in one mouse. Lymph node hyperplasia could also be seen in wildtype mice albeit at low prevalence (5-15% in various B6 WT strains we have analyzed). Hence this finding should be interpreted with caution. We did not find morphological explanation for most of the phenotypes (decreased grip strength, increased circulating alkaline phosphatase level, decreased circulating thyroxine level, hypercalcemia, decreased leukocyte cell number, decreased B cell number).

Summary: Spleen: Erythroid hyperplasia (4/4); megakaryocyte hyperplasia (3/4); granulocytic hyperplasia (2/4).