CMHD Pathology Report

CMHD Pathology Core
Toronto Centre for Phenogenomics
25 Orde St. 3rd fl.
Toronto, Ont. M5T 3H7
Tel.(416) 586-8375
Fax (416) 586-5993

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

contact: Dr. Susan Newbigging
email: newbigging@lunenfeld.ca

ReportID: Report Date: September 12, 2013
Pathologist: Dr. H. Adissu

CMHD LabID: N13-568

Relevant History:
Phenotype:
preweaning lethality

AnimalID: M00353917 (Male)

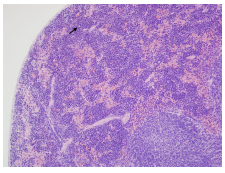
Histopathology Findings:

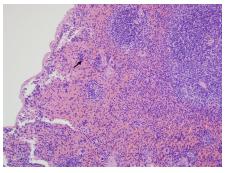
spleen (MA:0000141)

Histopath Description:
marked erythroid hyperplasia

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

Definitive Diagnosis:
Splenic erythroid hyperplasia


Spleen, erythroid hyperplasia, 20x, HE

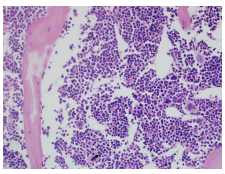

Spleen, WT, normal, 20x, HE

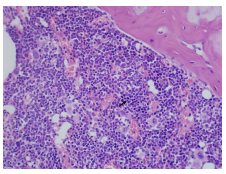
bone marrow (MA:0000134)

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


Bone marrow, erythroid hyperplasia, 40x, HE


Bone marrow, WT, normal, 40x, HE

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).

retina (MA:0000276)

Histopath Description:
Involving one eye, there are clusters of external nuclear structures within the internal and outer plexiform layer.

Morphological Diagnosis:
Distribution: Focal; **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.

AnimalID: M00353916 (Male)

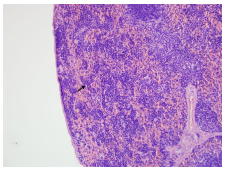
Histopathology Findings:

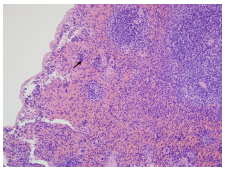
spleen (MA:0000141)

Histopath Description:
marked erythroid hyperplasia

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

Definitive Diagnosis:
Splenic erythroid hyperplasia


Spleen, erythroid hyperplasia, 20x, HE


Spleen, WT, normal, 20x, HE

liver (MA:0000358)

Histopath Description:
diffuse lipidosis

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

Definitive Diagnosis:
hepatic steatosis

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: M00377993 (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:
The mesenteric lymph node is markedly enlarged (greater than four fold). The medulla is particularly expanded by chords and sheets of plasmatoid cells. There are promient 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 maginal center lymphoma is suspected.

brain (MA:0000168)

Histopath Description:
There is mild dilation of the lateral ventricles

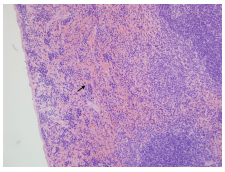
Morphological Diagnosis:
Distribution: bilateral; **Severity:** mild;

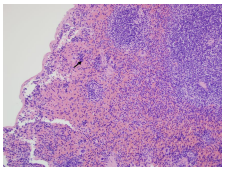
Definitive Diagnosis:
Dilation of the brain ventricles

Histopathology Comments:
Mild dilation of the lateral ventricles is a background condition in mice of C57BL/6N background (Brayton et al., 2004).

spleen (MA:0000141)

Histopath Description:
normal


Spleen, normal, 20x, HE


Spleen, WT, normal, 20x, 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: M00377992 (Female)

Histopathology Findings:

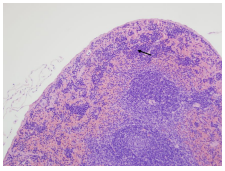
spleen (MA:0000141)

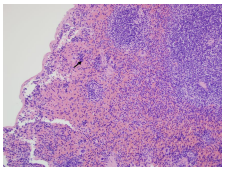
Histopath Description:
mild erythroid hyperplasia

Morphological Diagnosis:

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

Definitive Diagnosis:
Splenic erythroid hyperplasia


Spleen, erythroid hyperplasia, 20x, HE


Spleen, WT, normal, 20x, HE

brain (MA:0000168)

Histopath Description:
There is moderate dilation of the lateral ventricles

Morphological Diagnosis:
Distribution: bilateral; **Severity:** moderate;

Definitive Diagnosis:
Dilation of the brain ventricles

Histopathology Comments:
dilation of the lateral ventricles is a background condition in mice of C57BL/6N background (Brayton et al., 2004).

liver (MA:0000358)

Histopath Description:
moderate lipidosis

Morphological Diagnosis:
Distribution: multifocal to coalescing; **Severity:** moderate; **MPATH Diagnosis:** steatosis MPATH:622

Definitive Diagnosis:
hepatic steatosis

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:
Splenic erythroid hyperplasia is observed in three mice from these line; one of these mice also showed mild erythroid hyperplasia in the bone marrow. We did not find other lesions elsewhere to suggest secondary (regenerative) erythroid hyperplasia. Other lesions are are attributable to diet or strain background. There are no lesions predictive of preweaning lethality in this line.

Line summary: Splenic erythroid hyperplasia (3/4); Bone marrow erythroid hyperplasia (1/4).