



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

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

Principle Investigator: Dr. Jacqui White

Institute: Wellcome Trust Sanger Institute
Address: Attn: Linda Read Wellcome Trust
Genome Campus Hinxton Cambridge CB10
1SA, UK

ReportID: Report Date: February 20,
2014
Pathologist: Dr. H. Adissu

Mouse Genetics Project

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

email:
MGPenquiries@sanger.ac.uk
[Mouse Portal](#)
[Europhenome](#)

CMHD LabID: N13-923

Relevant History:

Phenotype:

decreased body weight
hypoalbuminemia
decreased circulating total protein level

AnimalID: M00424408 (Male)

Histopathology Findings:

heart (MA:0000072)

Histopath Description:

The heart is slightly smaller than normal

Morphological Diagnosis:

Distribution: generalized; **Severity:** mild; **MPATH Process Term:** hypoplasia MPATH:133

Definitive Diagnosis:

Cardiac hypoplasia

liver (MA:0000358)

Histopath Description:

moderate lipidosis

Morphological Diagnosis:

Distribution: multifocal to coalescing; **Severity:** moderate; **MPATH Diagnosis:** steatosis
MPATH:622; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosis

Histopathology Comments:

This is dietary steatosis

brain (MA:0000168)

Histopath Description:

There is marked dilation of the lateral ventricles

Morphological Diagnosis:

Distribution: diffuse; **Severity:** severe; **MPATH Diagnosis:** hydrocephalus MPATH:639;
MPATH Process Term: degenerative change MPATH:14

Definitive Diagnosis:

Dilation of the brain ventricles

Histopathology Comments:

Mild to moderate dilation of the ventricles is a background condition in mice of C57BL/6N background

lymph node (MA:0000139)

Histopath Description:

Overall, the mesenteric lymph node is distinctly basophilic. Its architecture is disrupted by diffuse sheets of monotypic round cells that distended the subcapsular, medullary and occasional transverse sinuses. The cells have scant or no visible cytoplasm, round nuclei with stippled chromatin and a central distinct nucleolus (interpreted as lymphocytes). Rare apoptotic bodies and mitotic figures are present within occasional germinal centers.

Morphological Diagnosis:

MPATH Diagnosis: lymphoid neoplasms MPATH:513; **MPATH Process Term:** neoplasia MPATH:218

Definitive Diagnosis:

Lymphoma

Histopathology Comments:

The presence of diffuse sheets of monomorphic lymphocytes within the sinuses is suggestive of lymphoma. Note all mice in this line have mesenteric lymphoma.

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

There are two 50 um diameter epithelial cysts.

Morphological Diagnosis:

Distribution: multifocal; **MPATH Diagnosis:** cyst MPATH:62; **MPATH Process Term:** developmental and structural abnormality MPATH:55

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, testis, epididymis, seminal vesicle, and prostate.

AnimalID: M00424407 (Male)**Histopathology Findings:****heart (MA:0000072)****Histopath Description:**

The heart is slightly smaller than normal

Morphological Diagnosis:

Distribution: generalized; **Severity:** mild; **MPATH Process Term:** hypoplasia MPATH:133

Definitive Diagnosis:

Cardiac hypoplasia

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

diffuse lipodosis

Morphological Diagnosis:

Distribution: diffuse; **Severity:** extreme; **MPATH Diagnosis:** steatosis MPATH:622; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipodosis

Histopathology Comments:

This is dietary steatosis

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

There is mild dilation of the lateral ventricles

Morphological Diagnosis:

Distribution: diffuse; **Severity:** mild; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Dilation of the brain ventricles

Histopathology Comments:

Mild dilation of the ventricles is a background condition in mice of C57BL/6N background

eye (MA:0000261)

Histopath Description:

Involving one eye, there are clusters of external nuclear structures within the internal plexiform layer.

Morphological Diagnosis:

Distribution: multifocal; **Severity:** mild; **MPATH Process Term:** developmental dysplasia MPATH:64

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: M00365511 (Female)

Histopathology Findings:

heart (MA:0000072)

Histopath Description:

The heart is slightly smaller than normal

Morphological Diagnosis:

Distribution: generalized; **Severity:** mild; **MPATH Process Term:** hypoplasia MPATH:133

Definitive Diagnosis:

Cardiac hypoplasia

liver (MA:0000358)

Histopath Description:

diffuse lipodosis

Morphological Diagnosis:

Distribution: diffuse; **Severity:** extreme; **MPATH Diagnosis:** steatosis MPATH:622; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipodosis

Histopathology Comments:

This is dietary steatosis

brain (MA:0000168)

Histopath Description:

There is marked dilation of the lateral ventricles

Morphological Diagnosis:

Distribution: diffuse; **Severity:** severe; **MPATH Diagnosis:** hydrocephalus MPATH:639; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Dilation of the brain ventricles

Histopathology Comments:

Mild to moderate dilation of the ventricles is a background condition in mice of C57BL/6N background

spleen (MA:0000141)

Histopath Description:

Mild erythropoiesis-erythroid and megakaryocytic

Morphological Diagnosis:

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

hemopoiesis MPATH:595; **MPATH Process Term:** hyperplasia MPATH:134

Definitive Diagnosis:

Mild erythropoiesis-erythroid and megakaryocytic

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: M00365512 (Female)**Histopathology Findings:****heart (MA:0000072)****Histopath Description:**

The heart is slightly smaller than normal

Morphological Diagnosis:

Distribution: generalized; **Severity:** mild; **MPATH Process Term:** hypoplasia MPATH:133

Definitive Diagnosis:

Cardiac hypoplasia

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

moderate lipidosis

Morphological Diagnosis:

Distribution: multifocal to coalescing; **Severity:** moderate; **MPATH Diagnosis:** steatosis MPATH:622; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosis

Histopathology Comments:

This is dietary steatosis

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

Mild hydrocephalus of lateral ventricles

Morphological Diagnosis:

Distribution: diffuse; **Severity:** mild; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Dilation of the brain ventricles

Histopathology Comments:

Mild dilation of the ventricles is a background condition in mice of C57BL/6N background

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

Overall, the mesenteric lymph node is distinctly basophilic. Its architecture is disrupted by diffuse sheets of monotypic round cells that distended the subcapsular, medullary and occasional transverse sinuses. The cells have scant or no visible cytoplasm, round nuclei with stippled chromatin and a central distinct nucleolus (interpreted as lymphocytes). Rare apoptotic bodies and mitotic figures are present within occasional germinal centers.

Morphological Diagnosis:

MPATH Diagnosis: lymphoid neoplasms MPATH:513; **MPATH Process Term:** neoplasia MPATH:218

Definitive Diagnosis:

Lymphoma

Histopathology Comments:

The presence of diffuse sheets of monomorphic lymphocytes within the sinuses is suggestive of lymphoma. Note all mice in this line have mesenteric lymphoma.

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:

The heart in all mice is smaller than normal. We are not certain if this is a reflection of decreased body weight in this line or a primary phenotype. Hepatic lipidoses is moderate in two mice consistent with decreased body weight. There are no lesions to explain hypoalbuminemia and decreased circulating total protein level.

Iine summary:

Heart, hypoplasia (mild) - 4/4

Liver, moderate lipidoses - 2/4