



# 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](mailto: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: June 18, 2013  
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](mailto:MGPenquiries@sanger.ac.uk)  
[Mouse Portal](#)  
[Europhenome](#)

CMHD LabID: N13-247

## Relevant History:

Phenotype:  
decreased body weight  
decreased lean body mass  
decreased body weight  
hypoalbuminemia  
decreased circulating total protein level  
decreased circulating insulin level  
preweaning lethality  
embryonic lethality

## AnimalID: M00366775 (Male)

### Histopathology Findings:

#### liver (MA:0000358)

##### Histopath Description:

moderate lipidosis

##### Morphological Diagnosis:

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

##### Definitive Diagnosis:

hepatic lipidosis

#### pancreatic islet (MA:0000127)

##### Histopath Description:

Normal

##### Morphological Diagnosis:

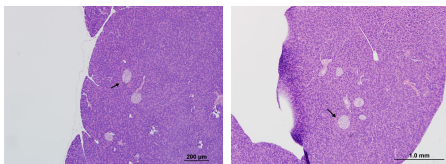
**Severity:** no lesions;

##### Definitive Diagnosis:

Normal

##### Histopathology Comments:

images included



Pancreatic islet,  
normal, 10x, HE

Pancreatic islet, Wt  
control, normal,  
10x, HE

#### lymph node (MA:0000139)

##### Histopath Description:

One of the superficial lymph nodes is enlarged more than two-fold. Its architecture is altered by large numbers of monomorphic lymphocytes that fill and distend all the sinuses and elevate the

capsule. The neoplastic cells have generally a scant amount of eosinophilic cytoplasm, medium sized round central nucleus with granular chromatin, and single variably distinct amphophilic nucleoli. Mitotic figures are (less than 1/HPF).

**Definitive Diagnosis:**

Lymphoma

**Histopathology Comments:**

The lesion is suggestive of an early lymphoma of the mesenteric lymph node.

**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).

**AnimalID: M00371886 (Male)**

**Tissue Preservation and Staining:**

Liver not present for analysis

**Histopathology Findings:**

**pancreatic islet (MA:0000127)**

**Histopath Description:**

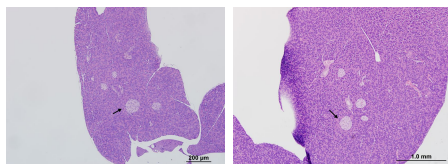
normal

**Morphological Diagnosis:**

**Severity:** no lesions;

**Definitive Diagnosis:**

Normal



Pancreatic islet, normal, 10x, HE

Pancreatic islet, Wt control, normal, 10x, 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).

**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.

---

**AnimalID: M00366777 (Female)**

**Histopathology Findings:**

**liver (MA:0000358)**

**Histopath Description:**

moderate lipidosis

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

hepatic lipidosis

**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:**

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).

**pancreatic islet (MA:0000127)**

**Histopath Description:**

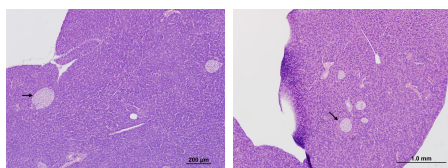
normal

**Morphological Diagnosis:**

**Severity:** no lesions;

**Definitive Diagnosis:**

Normal



Pancreatic islet, normal, 10x, HE

Pancreatic islet, Wt control, normal, 10x, HE

**AnimalID: M00366776 (Female)****Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

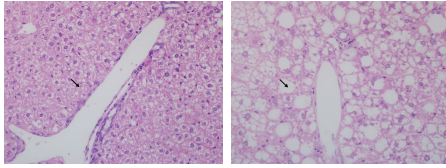
very minimal lipidosis

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

hepatic lipidosis, minimal



Liver, WT control.

Severe lipidosis,  
40x, HE

Liver, minimal  
lipidosis, 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).

**pancreatic islet (MA:0000127)****Histopath Description:**

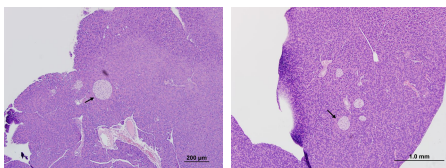
normal

**Morphological Diagnosis:**

**Severity:** no lesions;

**Definitive Diagnosis:**

Normal



Pancreatic islet,  
normal, 10x, HE

Pancreatic islet, Wt  
control, normal,  
10x, HE

**Report Summary and Recommendation:**

There is minimal lipidosis in one of the female mice consistent with decreased body weight in this line. The liver is not available for the other female mice. The absence of lipidosis in the female mouse may be explained by the decreased circulating total protein level in female mice in this line as hepatic lipoprotein synthesis depends on protein availability. We did not see any lesion to explain low protein levels. The kidneys are histologically normal and there is no evidence of glomerulopathy or protein loss in the tubules. No abnormality is noted in the pancreatic islets to explain low insulin level. We also did not observe histological correlate to the rest of the clinical phenotypes. Analysis of embryos and preweaning animals may help determine cause of embryonic and preweaning mortality.

Line summary: Minimal lipidosis