



# 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. Colin McKerlie ICSIG

Institute: Sick Kids  
Address:

ReportID: Report Date: November 23,  
2011  
Pathologist: 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: N11-181

## Relevant History:

(Indirect Calorimetry; Plasma Chemistry; Plasma Immunoglobulins; Haematology (CBC); Peripheral Blood Lymphocytes; Salmonella Challenge) Increased bacterial susceptibility, decreased IgA, IgG, increased leukocyte number, decreased regulatory T cells

**AnimalID: M00219477 Nfkb1 homo**

## Histopathology Findings:

### salivary gland (MA:0000346)

#### Histopath Description:

Within the mandibular salivary gland, the interstitium is focally expanded by aggregates of lymphocytes, histiocytes, and low numbers of plasma cells.

#### Morphological Diagnosis:

**Distribution:** Focal; **Severity:** mild; **MPATH Diagnosis:** inflammation MPATH:212

#### Definitive Diagnosis:

Interstitial histiocytic and lymphocytic sialadenitis

#### Histopathology Comments:

This is a common and insignificant incidental finding in mice.

### liver (MA:0000358)

#### Histopath Description:

The overall hepatic lobular architecture is normal. Diffusely, hepatocytes contain intracytoplasmic clear vacuoles (lipid). The lipid vacuoles within the midzonal and periportal regions are small (2-3 um in diameter) and surround a central nucleus (interpreted as microvesicular lipid). The lipid vacuoles within the portal areas are large (8-12 um in diameter) and displace the nucleus to the margin (macrovesicular lipid).

#### Morphological Diagnosis:

**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** lipid deposition MPATH:42

#### Definitive Diagnosis:

Hepatic lipidosis

#### Histopathology Comments:

Hepatocellular vacuolar change of variable degree suggestive of lipidosis is present in all mice from WTSI, consistent with high lipid diet.

**AnimalID: M00219478 Nfkb1 homo**

## Tissue Preservation and Staining:

Thyroid gland is not present in section. Tissues not present in submission: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder.

## Histopathology Findings:

### liver (MA:0000358)

**Histopath Description:**

lipid accumulation similar to M0018944 Adam 17 Het

**Morphological Diagnosis:**

**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** lipid deposition MPATH:42

**Definitive Diagnosis:**

Hepatic lipidosis

**Histopathology Comments:**

Hepatocellular vacuolar change of variable degree suggestive of lipidosis is present in all mice from WT5I, consistent with high lipid diet.

**stomach (MA:0000353)****Histopath Description:**

There are moderate numbers of neutrophils and few plasma cells within the deep lamina propria and submucosa.

**Morphological Diagnosis:**

**Duration:** Chronic-active; **Distribution:** Multifocal; **Severity:** mild; **MPATH Diagnosis:** inflammation MPATH:212

**Definitive Diagnosis:**

Gastritis, suppurative

**Histopathology Comments:**

The lesion is likely caused by Helicobacter infection

**mesenteric lymph node (MA:0002829)****Histopath Description:**

The lymph node architecture is altered by the presence of large numbers of monomorphic lymphocytes filling and distending all the sinuses and elevating 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 rare less than 1/HPF.

**Morphological Diagnosis:**

**MPATH Diagnosis:** lymphoma [obsolete use MPATH:516 or 535] MPATH:343

**Definitive Diagnosis:**

Lymphoma

**Histopathology Comments:**

The lesion indicates an early lymphoma.

**ear (MA:0000236)****Morphological Diagnosis:**

**Severity:** mild; **MPATH Diagnosis:** hyperplasia MPATH:134

**Definitive Diagnosis:**

Epidermal hyperplasia with keratinocyte hypertrophy.

**AnimalID: M00280568 Nfkb1 homo****Tissue Preservation and Staining:**

Tissues not present in submission: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder.

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

The overall hepatic lobular architecture is normal. Diffusely, hepatocytes contain intracytoplasmic clear vacuoles (lipid). The lipid vacuoles within the midzonal and periportal regions are small (2-3 um in diameter) and surround a central nucleus (interpreted as microvesicular lipid). The lipid vacuoles within the portal areas are large (8-12 um in diameter) and displace the nucleus to the margin (macrovesicular lipid).

**Morphological Diagnosis:**

**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** lipid deposition MPATH:42

**Definitive Diagnosis:**

Hepatic lipidosis

**Histopathology Comments:**

Hepatocellular vacuolar change of variable degree suggestive of lipidosis is present in all mice from WTSI, consistent with high lipid diet.

**stomach (MA:0000353)****Histopath Description:**

There are low numbers of neutrophils within the deep lamina propria in the glandular stomach adjacent to the limiting ridge.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Multifocal; **Severity:** mild; **MPATH Diagnosis:** inflammation MPATH:212

**Definitive Diagnosis:**

Gastritis, suppurative

**Histopathology Comments:**

This lesion is most commonly associated with Helicobacter infection. Further investigation is suggested using histochemistry (Silver stain) or colony fecal PCR.

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

The superficial cervical lymph node is enlarged. Lymphoid follicles are enlarged and there are multiple germinal centers. Numerous mature lymphocytes are present within the medullary and paracortical sinuses. The marginal sinuses contain numerous mature lymphocytes. The paracortical and medullary sinuses contain numerous histiocytes.

**Morphological Diagnosis:**

**Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134

**Definitive Diagnosis:**

Lymphoid hyperplasia with sinus histiocytosis.

**Histopathology Comments:**

The changes in this lymph node suggest a regional inflammatory process such as otitis.

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

There is a mild enlargement of the lateral ventricle.

**Morphological Diagnosis:**

**Severity:** mild; **MPATH Diagnosis:** hydrocephalus MPATH:639

**Definitive Diagnosis:**

hydrocephalus, lateral ventricle

**Histopathology Comments:**

Variable degree of hydrocephalus is observed in a proportion of wild type C57 Black 6 mice.

---

**AnimalID: M00280567 Nfkb1 homo****Tissue Preservation and Staining:**

Thyroid gland is not present in section. Tissues not present in submission: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder.

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

The overall hepatic lobular architecture is normal. Diffusely, hepatocytes contain intracytoplasmic clear vacuoles (lipid). The lipid vacuoles within the midzonal and periportal regions are small (2-3 um in diameter) and surround a central nucleus (interpreted as microvesicular lipid). The lipid vacuoles within the portal areas are large (8-12 um in diameter) and displace the nucleus to the margin (macrovesicular lipid).

**Morphological Diagnosis:**

**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** lipid deposition MPATH:42

**Definitive Diagnosis:**

Hepatic lipidosis

**Histopathology Comments:**

Hepatocellular vacuolar change of variable degree suggestive of lipidosis is present in all mice from WTSI, consistent with high lipid diet.

**stomach (MA:0000353)****Histopath Description:**

There are large numbers of neutrophils within the deep lamina propria in the glandular stomach adjacent to the limiting ridge. Moderate numbers of neutrophils are present within the basal aspect of the limiting ridge.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Multifocal; **Severity:** moderate; **MPATH Diagnosis:** inflammation MPATH:212

**Definitive Diagnosis:**

Gastritis, suppurative

**Histopathology Comments:**

This lesion is most commonly associated with Helicobacter infection. Further investigation is suggested using histochemistry (Silver stain) or colony fecal PCR.

**Summary:**

Various incidental lesions were found. These lesions were also variably documented in the wild type control mice. There are no histopathology correlates for the increased ALP activity, increased WBC count and corneal mineralization detected by in-life phenotyping.

**Report Summary and Recommendation:**

Incidental and lesions attributable to background strain are noted in this line. These lesions were also variably documented in the wild type control mice. There are no histopathology correlates for the increased ALP activity, increased WBC count and corneal mineralization detected by in-life phenotyping.