



# CMHD Pathology Report



## CMHD Pathology Core

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## Mouse Genetics Project

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CMHD LabID: N11-380

**AnimalID: M00227465 Smyd4**

### 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.

#### testis (MA:0000411)

##### Histopath Description:

There are numerous multinucleated spermatids with pyknotic nuclei and vesicular cytoplasm. Multifocally, there is vacuolation of the seroti cells

##### Morphological Diagnosis:

**Distribution:** Multifocal; **Severity:** mild; **MPATH Diagnosis:** degenerative change MPATH:14

##### Definitive Diagnosis:

Testicular degeneration.

#### eye (MA:0000261)

##### Histopath Description:

One of the eyes is markedly hypoplastic (micropthalmic); it is composed of a cavity lined by a thick layer of pigmented structure (undeveloped choroid) surrounded by a thick collagenous capsule.

##### Morphological Diagnosis:

**Distribution:** Unilateral; **Severity:** extreme; **MPATH Diagnosis:** developmental and structural abnormality MPATH:55

##### Definitive Diagnosis:

Microphtalmia, unilateral

##### Histopathology Comments:

Microphtalmia and other ocular defects are noted as incidental lesion in C57BL6/B6 mice.

**AnimalID: M00227467 Smyd4****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 periacinar 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 lipidosi

**Histopathology Comments:**

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

**testis (MA:0000411)****Histopath Description:**

There are numerous multinucleated spermatids with pyknotic nuclei and vesicular cytoplasm. Multifocally, there is rare vacuolation of the seroti cells

**Morphological Diagnosis:**

**Distribution:** Multifocal; **Severity:** mild; **MPATH Diagnosis:** degenerative change MPATH:14

**Definitive Diagnosis:**

Testicular degeneration.

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

The mesenteric lymph node is enlarged and follicle are prominent. Subcapsular sinues contain large numbers of mature lymphocytes. There low numbers of neutrophils within the medullary stroma.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Diffuse; **Severity:** mild; **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.

**spleen (MA:0000141)****Histopath Description:**

The spleen contains multiple follicles with prominent germinal centers. The marginal zones are mildly expanded by histiocytes.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134

**Definitive Diagnosis:**

Hyperplasia

**Histopathology Comments:**

The changes lymph nodes suggest increased circulating antigens (likely associated with bacterial pneumonia).

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

There is a focal granuoma centered on a single hair cross-section embeded in the gastric mucosa adjacent to the limiting ridge. The granuloma contains a single Langerhan's type multinucleated cell, macrophages, and few lymphocytes

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Focal gastric trichogranuloma

**Histopathology Comments:**

The lesion is considered incidental and insignificant.

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**AnimalID: M00227470 Smyd4**

**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 lipidosi

**Histopathology Comments:**

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

**lymph node (MA:0000139)**

**Histopath Description:**

The mesenteric lymph node is enlarged up to 5X normal and follicle are prominent. Subcapsular sinuses contain large numbers of mature lymphocytes. There low numbers of neutrophils within the medullary stroma.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Diffuse; **Severity:** mild; **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. The severity of hyperplasia and prominent chords of lymphocytes in paracortex is suspicious for early lymphoma.

**lymph node (MA:0000139)**

**Histopath Description:**

The cervical and inguinal lymph nodes are enlarged and follicle are prominent. Subcapsular sinuses contain large numbers of mature lymphocytes. There low numbers of neutrophils within the medullary stroma.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Diffuse; **Severity:** mild; **MPATH Diagnosis:** hyperplasia MPATH:134

**Definitive Diagnosis:**

Lymphoid hyperplasia.

**kidney (MA:0000368)**

**Histopath Description:**

There is a focal perivascular aggregate of macrophages, lymphocytes and rare plasma cells at the corticomedullary junction of one of the kidneys.

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Focal perivascular inflammatory aggregate.

**sternal manubrium (MA:0001332)**

**Histopath Description:**

Within the cranial aspect of the sternum, there is a 5x4 mm nodular proliferation of the sternal cartilage. There is moderate variation in cell size and there are occasional mitotic figures. A granulation tissue extends from this mass into the surrounding sternal muscle. There is multifocal muscle degeneration and regeneration.

**Morphological Diagnosis:**

**Distribution:** Focal; **MPATH Diagnosis:** chondroma MPATH:391

**Definitive Diagnosis:**

Chondroma

**Histopathology Comments:**

The chondroma is accompanied by granulation tissue and degeneration and regeneration in the adjacent muscle.

**retina (MA:0000276)****Histopath Description:**

There are clusters of external nuclear structures within the layer of rods and cones.

**Morphological Diagnosis:**

**Distribution:** Focal; **Severity:** mild; **MPATH Diagnosis:** developmental and structural abnormality MPATH:55

**Definitive Diagnosis:**

Retinal dysplasia

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

There is a mild enlargement of the lateral ventricle.

**Morphological Diagnosis:**

**Severity:** mild; **MPATH Diagnosis:** degenerative change MPATH:14

**Definitive Diagnosis:**

hydrocephalus, lateral ventricle

**Histopathology Comments:**

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

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**AnimalID: M00227471 Smyd4****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 WT5I, consistent with high lipid diet.

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

The mesenteric lymph node is enlarged up to 5X normal and follicles are prominent. Subcapsular sinuses contain large numbers of mature lymphocytes. There are low numbers of neutrophils within the medullary stroma.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Diffuse; **Severity:** mild; **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. The severity of hyperplasia and prominent chords of lymphocytes in paracortex is suspicious for early lymphoma.

**spleen (MA:0000141)****Histopath Description:**

The spleen contains multiple follicles with prominent germinal centers. The marginal zones are mildly expanded by histiocytes.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134

**Definitive Diagnosis:**

Hyperplasia

**Histopathology Comments:**

The changes lymph nodes suggest increased circulating antigens (likely associated with bacterial pneumonia).

**retina (MA:0000276)****Histopath Description:**

There are clusters of external nuclear structures within the layer of rods and cons.

**Morphological Diagnosis:**

**Distribution:** Focal; **Severity:** mild; **MPATH Diagnosis:** developmental and structural abnormality MPATH:55

**Definitive Diagnosis:**

Retinal dysplasia

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

There is a mild enlargement of the lateral ventricle.

**Morphological Diagnosis:**

**Severity:** mild; **MPATH Diagnosis:** degenerative change MPATH:14

**Definitive Diagnosis:**

hydrocephalus, lateral ventricle

**Histopathology Comments:**

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

**Report Summary and Recommendation:**

Both male mice have multifocal seminiferous vacuolation and increased multinucleated spermatids. Two mice have mild retinal dysplasia. One mouse had a chondroma, a rare lesion in mice.

Testis: Degenerative change : MPATH:14