



CMHD Pathology Report



CMHD Pathology Core

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ReportID: Report Date: January 28, 2014
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Mouse Genetics Project

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CMHD LabID: N13-912

Relevant History:

Phenotype:

MP:0001325 abnormal retina morphology
MP:0005103 abnormal retinal pigmentation
MP:0010770 preweaning lethality
MP:0008762 embryonic lethality

AnimalID: M01102806 (Male)

Histopathology Findings:

retina (MA:0000276)

Histopath Description:

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

Morphological Diagnosis:

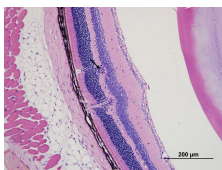
Distribution: Focal; **Severity:** mild; **MPATH Diagnosis:** developmental and structural abnormality MPATH:55; **MPATH Process Term:** developmental and structural abnormality MPATH:55

Definitive Diagnosis:

Retinal dysplasia

Histopathology Comments:

Retinal dysplasia is reported as a background lesion in C57BL/6N lines (Mattapallil et al., 2012).



Retina, dysplasia,
20x, HE

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 plasmotoid cells. There are prominent germinal centers within the medulla

Morphological Diagnosis:

Distribution: Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134;
MPATH Process Term: 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 marginal center lymphoma is suspected.

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

There is moderate dilation of the fourth ventricle

Morphological Diagnosis:

Distribution: diffuse; **Severity:** moderate; **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

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: M01102832 (Male)**Histopathology Findings:****brain (MA:0000168)****Histopath Description:**

There is moderate dilation of the fourth ventricle

Morphological Diagnosis:

Distribution: diffuse; **Severity:** moderate; **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:**

The mesenteric lymph node is markedly enlarged (greater than four fold). The medulla is particularly expanded by chords and sheets of plasmotoid cells. There are prominent germinal centers within the medulla

Morphological Diagnosis:

Distribution: Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134;
MPATH Process Term: 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 marginal center lymphoma is suspected.

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: M01102838 (Female)**Histopathology Findings:****brain (MA:0000168)****Histopath Description:**

There is mild dilation of the fourth ventricle

Morphological Diagnosis:**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:**

The mesenteric lymph node is markedly enlarged (greater than four fold). The medulla is particularly expanded by chords and sheets of plasmotoid cells. There are prominent germinal centers within the medulla

Morphological Diagnosis:**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134;
MPATH Process Term: 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.

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: M01102807 (Female)**Histopathology Findings:****retina (MA:0000276)****Histopath Description:**

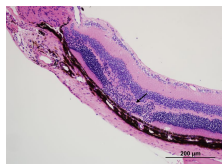
There are multifocal clusters of external nuclear structures within the layer of rods and cons.

Morphological Diagnosis:**Distribution:** Focal; **Severity:** mild; **MPATH Diagnosis:** developmental and structural abnormality MPATH:55; **MPATH Process Term:** developmental and structural abnormality MPATH:55**Definitive Diagnosis:**

Retinal dysplasia

Histopathology Comments:

Retinal dysplasia is reported as a background lesion in C57BL/6N lines (Mattapallil et al., 2012).



Retina, dysplasia,
20x, HE

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

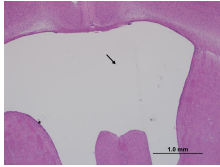
There is marked dilation of the lateral and third ventricles. The periventricular neuropil is vacuolated and rarefied and contains occasional swollen microglia

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

Hydrocephalus, triventricular

Histopathology Comments:

Hydrocephalus is seen as a background condition in mice of C57BL/6N background



Brain, laterl
ventricles,
hydrocephalus, 4x,
HE

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 plasmotoid cells. There are prominent germinal centers within the medulla

Morphological Diagnosis:

Distribution: Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134;
MPATH Process Term: 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 marginal center lymphoma is suspected.

parathyroid gland (MA:0000128)

Histopath Description:

The parathyroid gland is partially replaced by a lymphoid tissue reminiscent of thymic tissue.

Morphological Diagnosis:

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

Definitive Diagnosis:

Ectopic thymic tissue

Histopathology Comments:

incidental

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:

Mild dysplastic retinal lesions are present in two mice. The lesion may explain the abnormal retinal pigmentation/morphology documented in clinical phenotyping. However, this finding should be cautiously interpreted in light of the high prevalence of similar lesions in this strain (C57BL/6N). Lymphoid hyperplasia was observed in all mice. Lymph node hyperplasia could also be seen in wildtype mice albeit at low prevalence (5-15% in various B6 WT strains we have analyzed). Hence this finding should be interpreted with caution.

We did not find lesions to explain preweaning and embryonic lethality in homozygotes. Analysis of homozygous embryos and preweaning pups may explain cause mortality. Other lesions are considered incidental.

Line summary:

Eye - retinal dysplasia (2/4)

Mesenteric lymph node: Lymphoid hyperplasia (4/4)