

A Mouse Case from HK



Allan Kessell



Sample Submission Form

| | | | |
|---|-----------------------|--|-----------------------------------|
| Veterinarian: <u>Peter EGUIA</u> | | Owner Name: | |
| Clinic Name & Address: <u>Animal & Plant Care</u> | | Animal Name: <u>207-5002</u> | Microchip#: |
| <u>Facility HKUST</u> | | Species: <u>Mouse</u> | Breed: <u>APP</u> |
| Ph: <u>2358-7923</u> | Fax: <u>2358-3978</u> | Gender: <u>M</u> DOB: <u>29 Oct 16</u> | Client ref# at submitting clinic: |
| Email: <u>bopetermark@ust.hk</u> | VDL Account #: | Collection Time: <u>16:30</u> | DATE: <u>12/10/2017</u> |

HISTORY, SIGNS, LESIONS:

emaciated

BW: 16.06g

euthanized

DIFFERENTIAL DIAGNOSIS: 1. _____ 2. _____ 3. _____

Additional documentations submitted: Clinical medical history In-house blood work Diagnostic image

SAMPLES SUBMITTED (tick ✓)

Blood, clotted Blood, EDTA Blood, Lith hep Fluid Tissue, unfixed Tissue, fixed Other:

Blood, citrate Blood, fl/ox Slide Swab Faeces Urine: Cystocent. Catheterized Voided

*Results interpretation from a pathologist Yes No

| | | | |
|--|--|---|---|
| <p>TESTS REQUESTED (tick ✓)</p> <p>Panel*</p> <p><input type="checkbox"/> Canine liver</p> <p><input type="checkbox"/> Feline liver</p> <p><input type="checkbox"/> Equine racing profile</p> <p><input type="checkbox"/> Electrolyte panel</p> <p><input type="checkbox"/> Thyroid panel</p> <p><input type="checkbox"/> Coagulation panel</p> <p><input type="checkbox"/> DIC panel</p> <p><input checked="" type="checkbox"/> FeLV / FIV panel</p> <p><input type="checkbox"/> Canine diarrhoea</p> <p><input type="checkbox"/> Feline diarrhoea</p> <p><input type="checkbox"/> Canine respiratory</p> <p><input type="checkbox"/> Feline respiratory</p> <p><input type="checkbox"/> Canine tick fever</p> <p><input type="checkbox"/> PBF (HA, serology & PCR)</p> <p>Histopathology / Necropsy</p> <p><input type="checkbox"/> Biopsy</p> <p><input checked="" type="checkbox"/> Necropsy, routine</p> <p><input type="checkbox"/> Necropsy, cosmetic</p> <p>Urine *</p> <p><input type="checkbox"/> Urinalysis</p> <p><input type="checkbox"/> plus stained cytology</p> <p><input type="checkbox"/> plus culture & sensitivity</p> <p><input type="checkbox"/> Urine protein:creatinine</p> | <p>Haematology*</p> <p><input type="checkbox"/> Complete blood count</p> <p><input type="checkbox"/> Fibrinogen</p> <p><input type="checkbox"/> Serum amyloid A</p> <p><input type="checkbox"/> Reticulocyte count (no CBC)</p> <p><input type="checkbox"/> Platelet count (only)</p> <p><input type="checkbox"/> Prothrombin time</p> <p><input type="checkbox"/> APTT</p> <p><input type="checkbox"/> Coomb's test</p> <p><input type="checkbox"/> Cross match</p> <p>Biochemistry*</p> <p><input type="checkbox"/> Canine biochem panel</p> <p><input type="checkbox"/> Feline biochem panel</p> <p><input type="checkbox"/> Equine biochem panel</p> <p><input type="checkbox"/> Ruminant biochem panel</p> <p><input type="checkbox"/> Avian biochem panel</p> <p><input type="checkbox"/> Reptile biochem panel</p> <p><input type="checkbox"/> Electrolyte analyte: _____</p> <p><input type="checkbox"/> Bile acids</p> <p><input type="checkbox"/> T4</p> <p><input type="checkbox"/> Individual tests:</p> <p>Parasitology</p> <p><input type="checkbox"/> Faecal floatation</p> <p><input type="checkbox"/> Worm egg count, individual</p> | <p>Microbiology**</p> <p><input type="checkbox"/> Aerobic culture and sensitivity</p> <p><input type="checkbox"/> Anaerobic culture and sensitivity</p> <p><input type="checkbox"/> Blood culture and sensitivity</p> <p><input type="checkbox"/> Fungal culture</p> <p><input type="checkbox"/> Faecal culture (specify bacteria): _____</p> <p><input type="checkbox"/> Bacterial culture only</p> <p>Therapeutic Monitoring</p> <p><input type="checkbox"/> Zonisamide</p> <p><input type="checkbox"/> Levetiracetam</p> <p><input type="checkbox"/> Phenobarbitone</p> <p><input type="checkbox"/> Potassium Bromide</p> <p>Cytology</p> <p><input type="checkbox"/> Fine needle aspirate</p> <p>Fluid analysis: <input type="checkbox"/> Abdominal <input type="checkbox"/> Thoracic <input type="checkbox"/> Joint <input type="checkbox"/> CSF <input type="checkbox"/> Pericardial Cavity</p> <p>Washes: <input type="checkbox"/> BAL <input type="checkbox"/> TTW</p> | <p>Endocrinology*</p> <p><input type="checkbox"/> Canine ACTH</p> <p><input type="checkbox"/> Canine insulin</p> <p><input type="checkbox"/> Fructosamine</p> <p><input type="checkbox"/> Cortisol</p> <p><input type="checkbox"/> Urine cortisol:creatinine</p> <p><input type="checkbox"/> ACTH stim <input type="checkbox"/> LDDT</p> <p><input type="checkbox"/> HDDT</p> <p><input type="checkbox"/> Total T4 <input type="checkbox"/> fT4</p> <p><input type="checkbox"/> Progesterone</p> <p><input type="checkbox"/> Testosterone</p> <p><input type="checkbox"/> Canine TSH</p> <p><input type="checkbox"/> Parathyroid hormone</p> <p>PCR</p> <p>Site: _____</p> <p>Specify test: (refer to back of form)</p> <p>Serology</p> <p>Specify test: (refer to back of form)</p> |
|--|--|---|---|

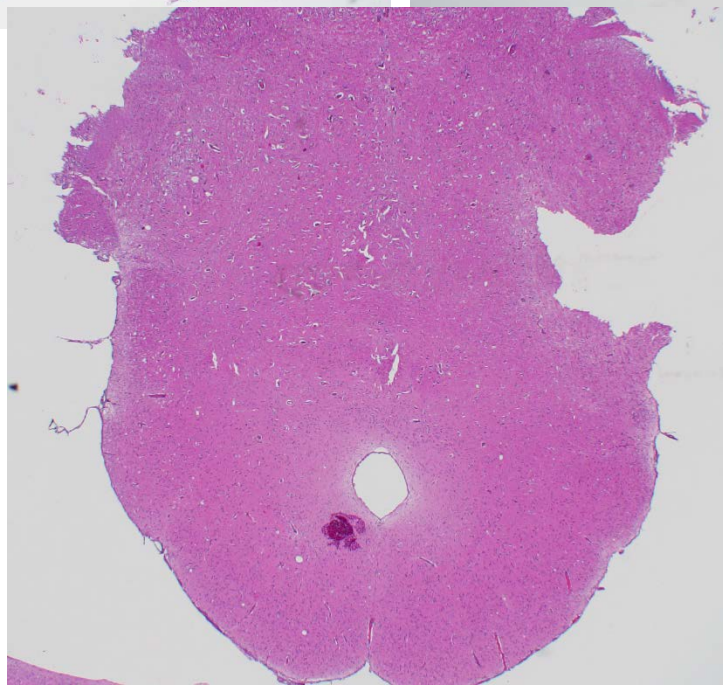
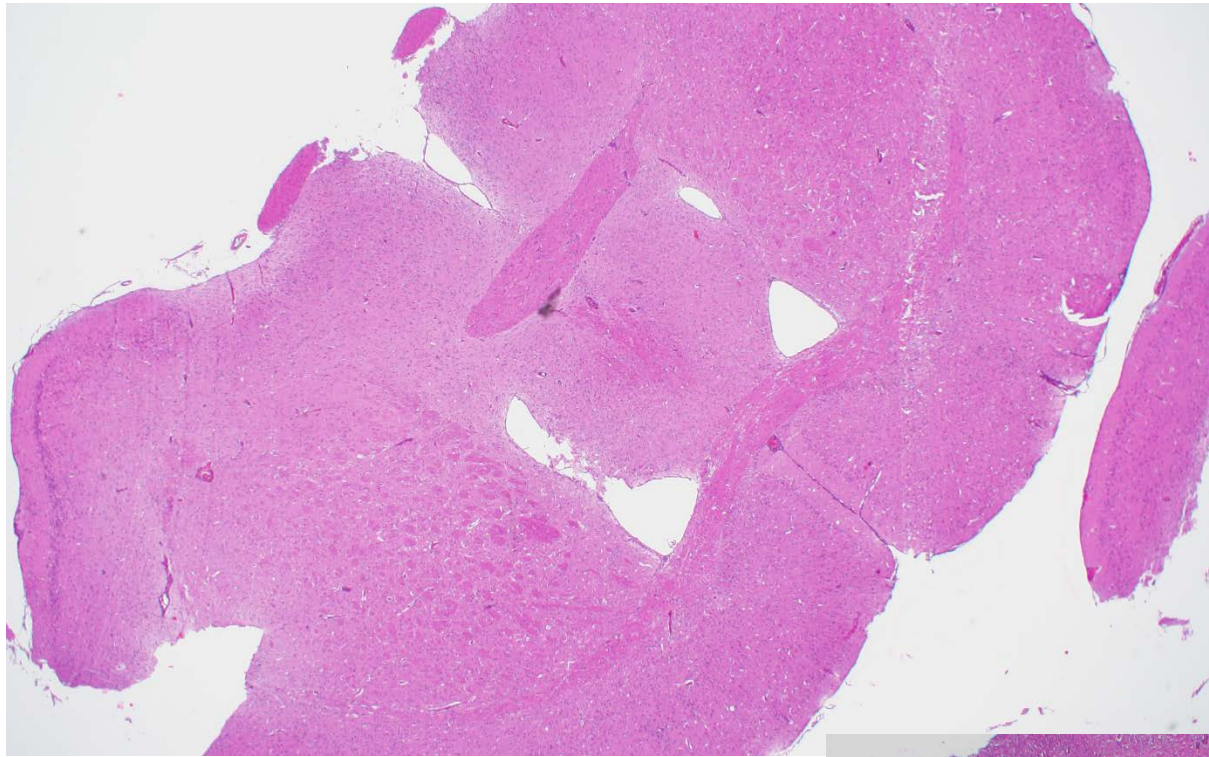
VDL USE ONLY

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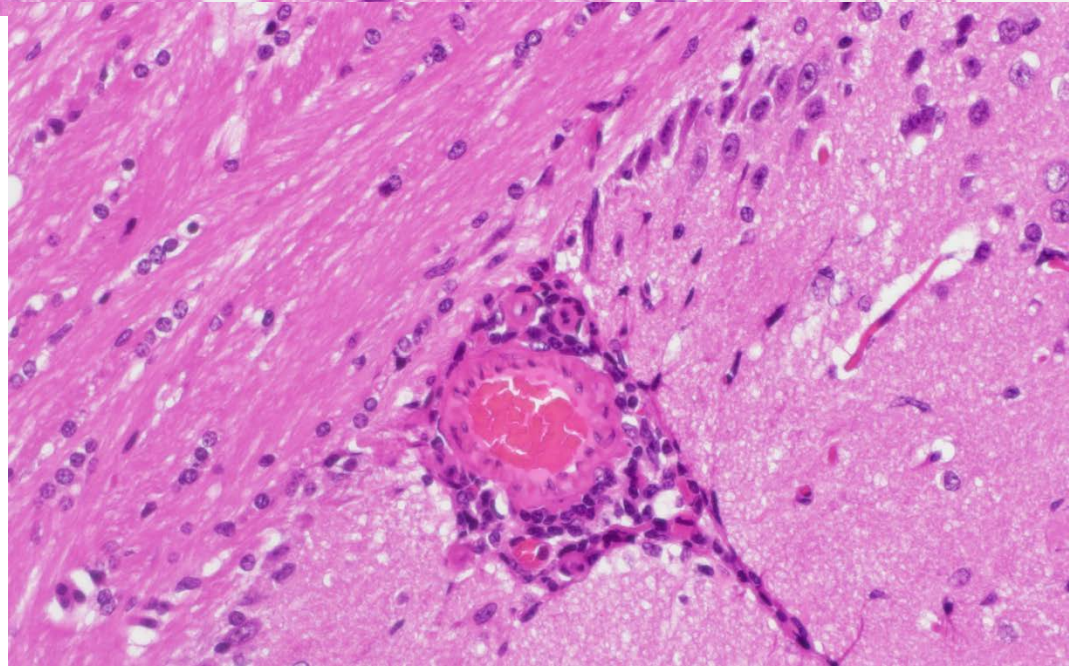
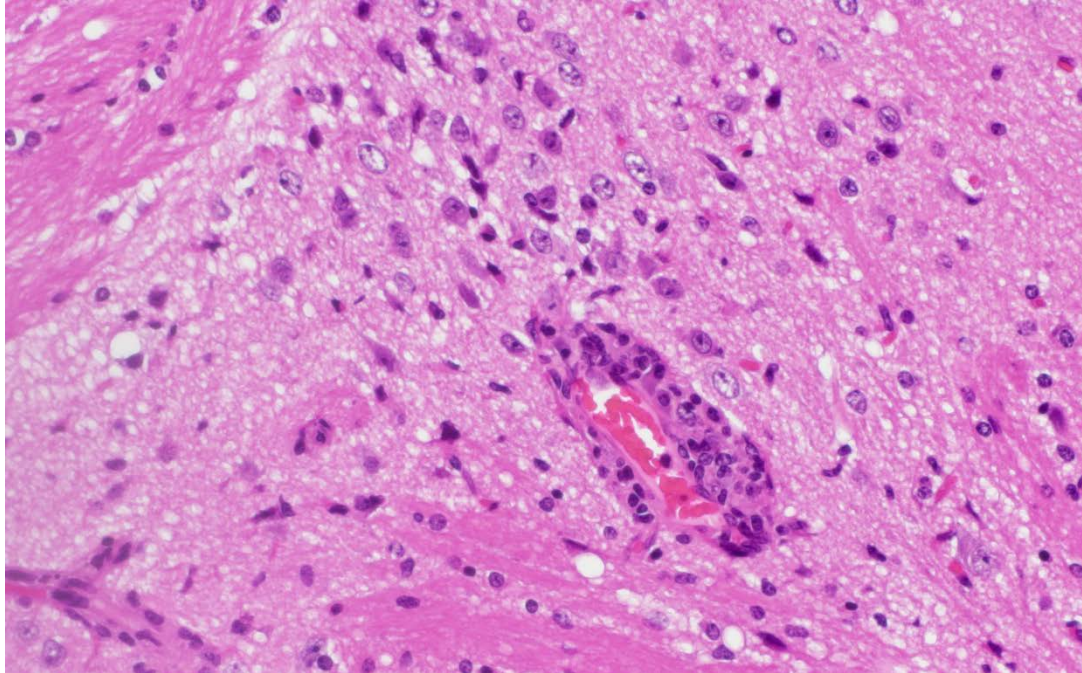
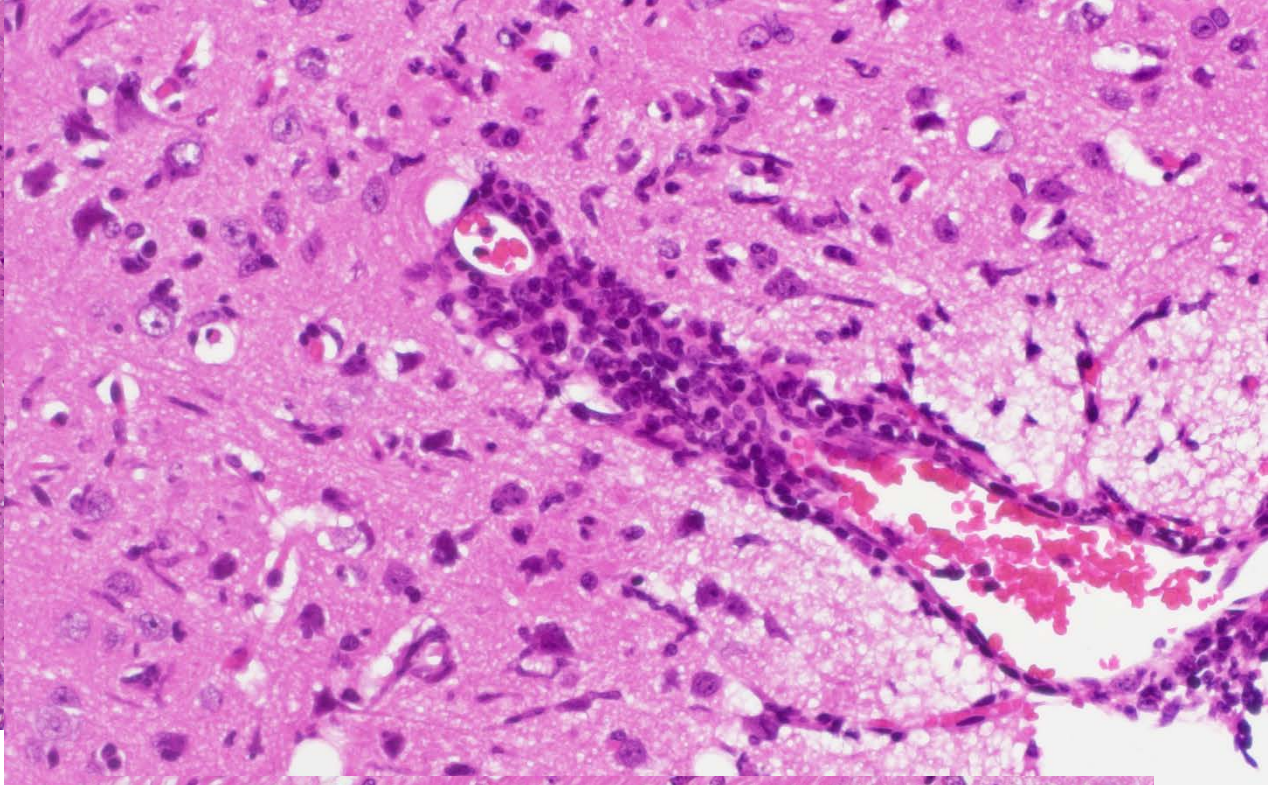
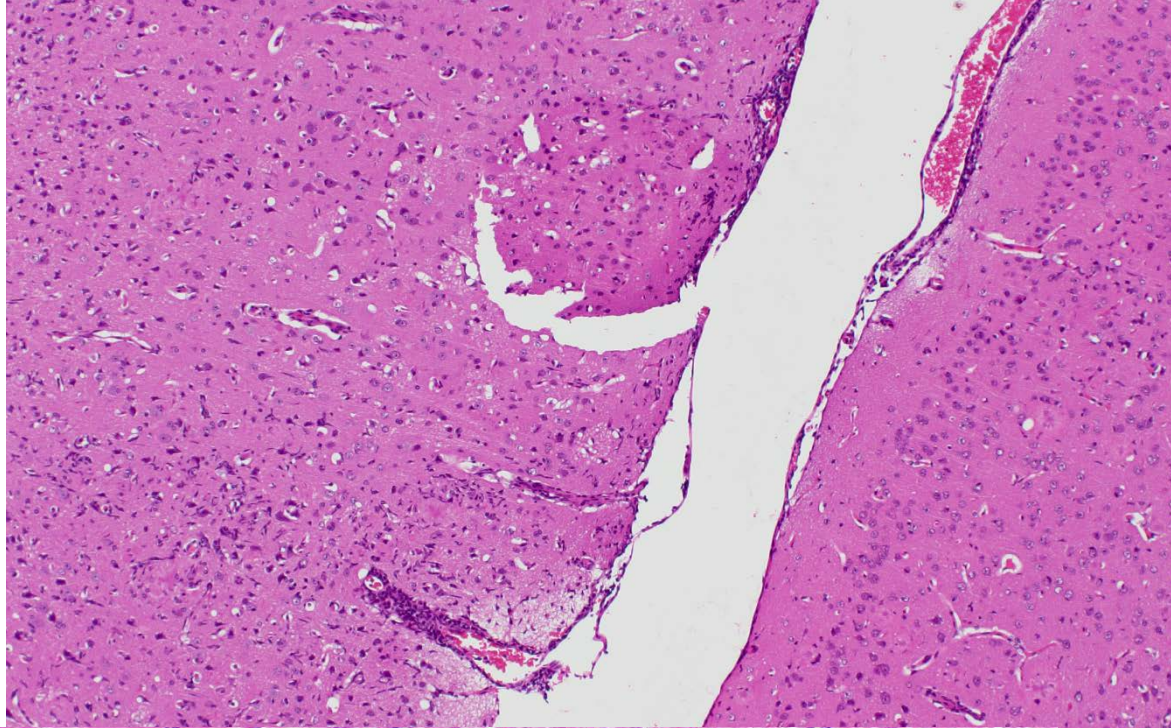
Staff member: KH

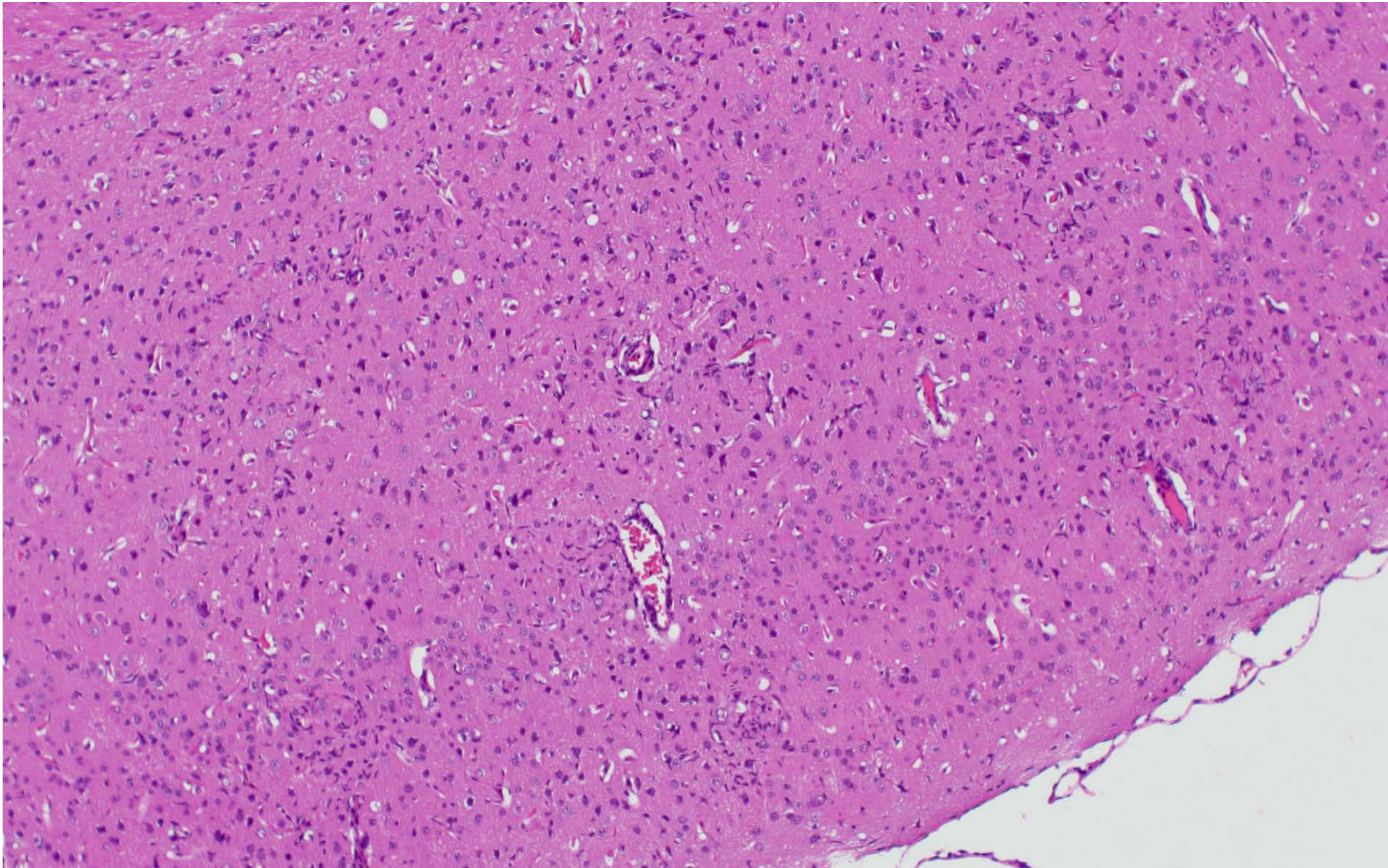
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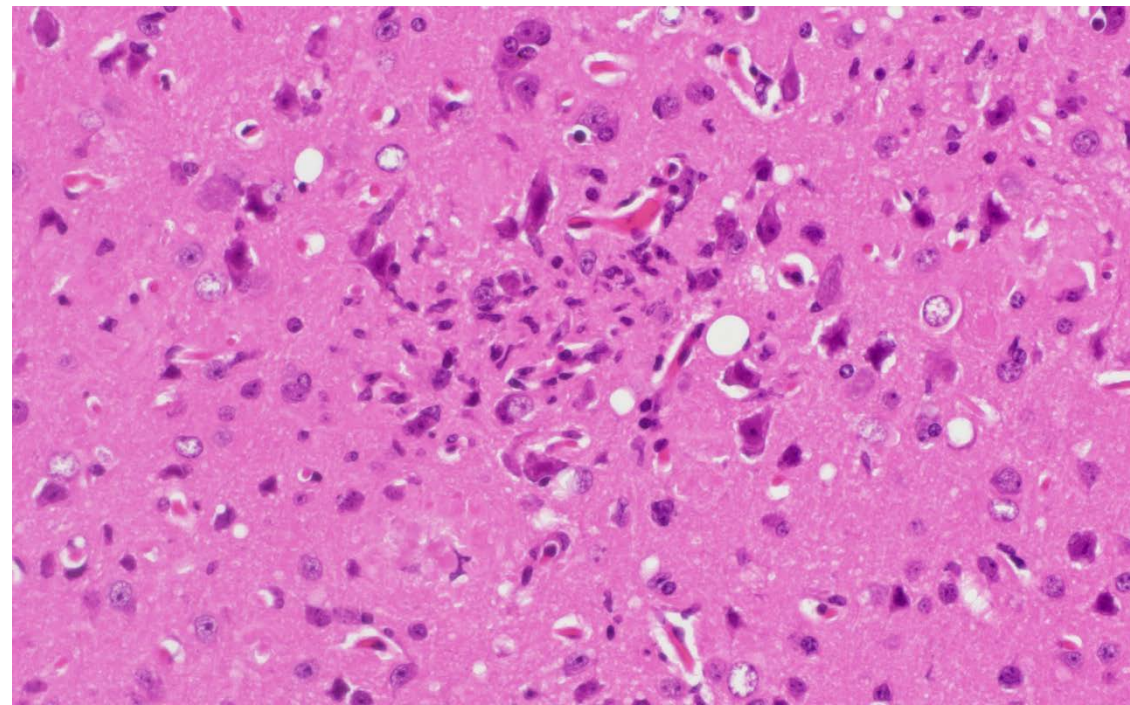
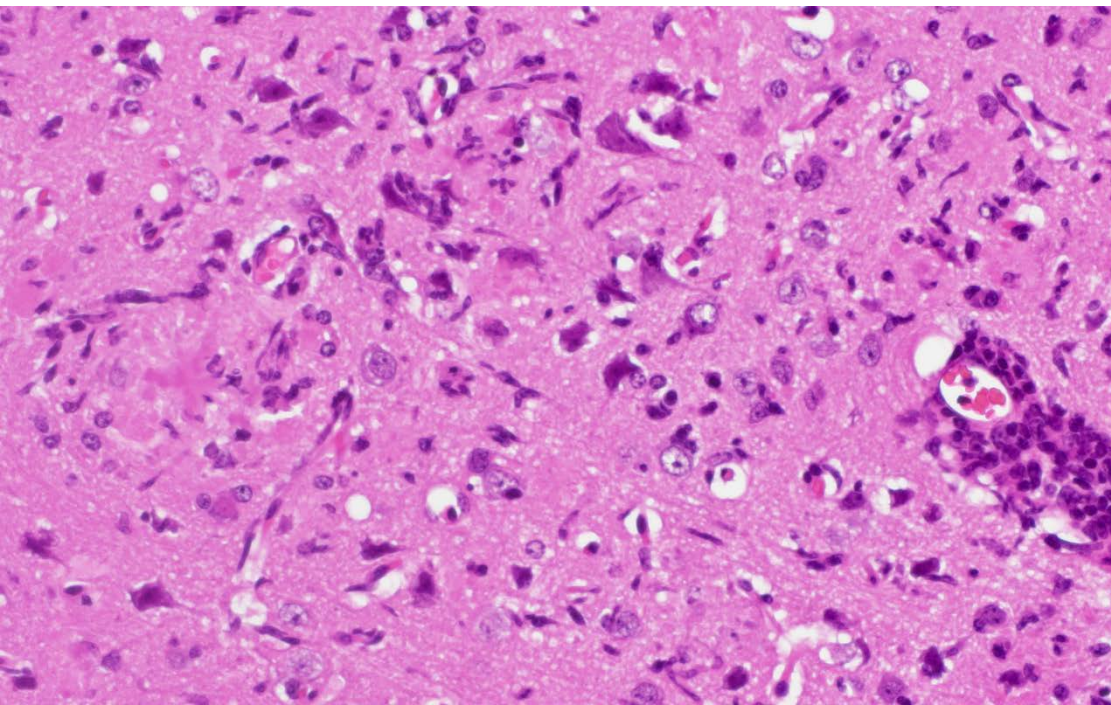
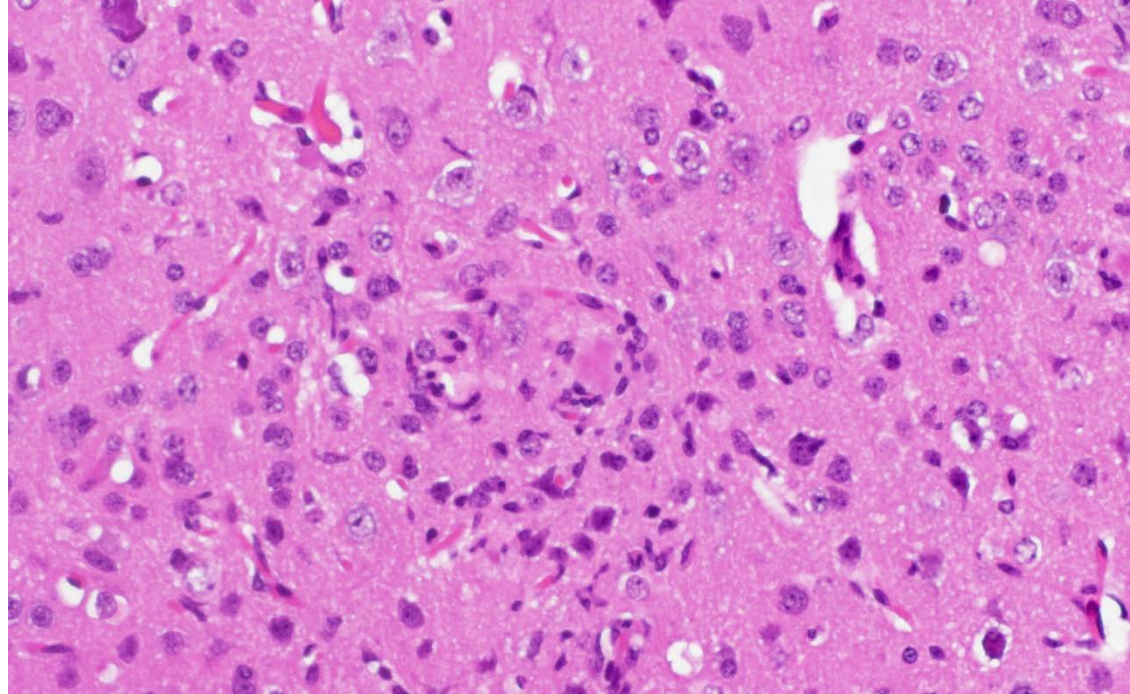
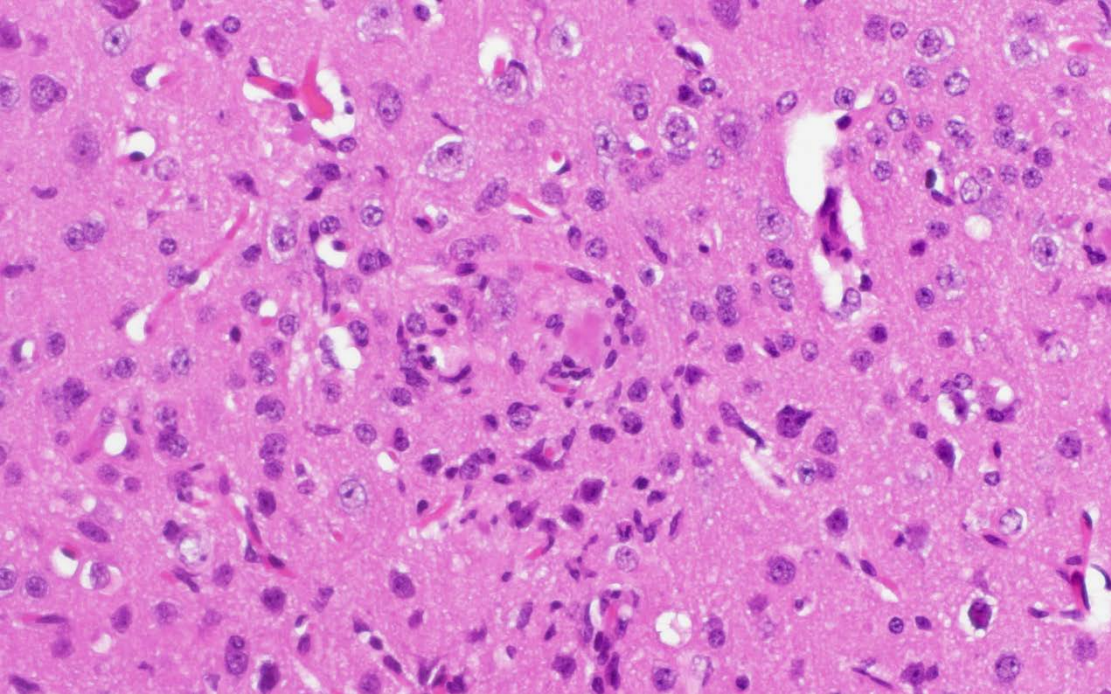
Mouse 1

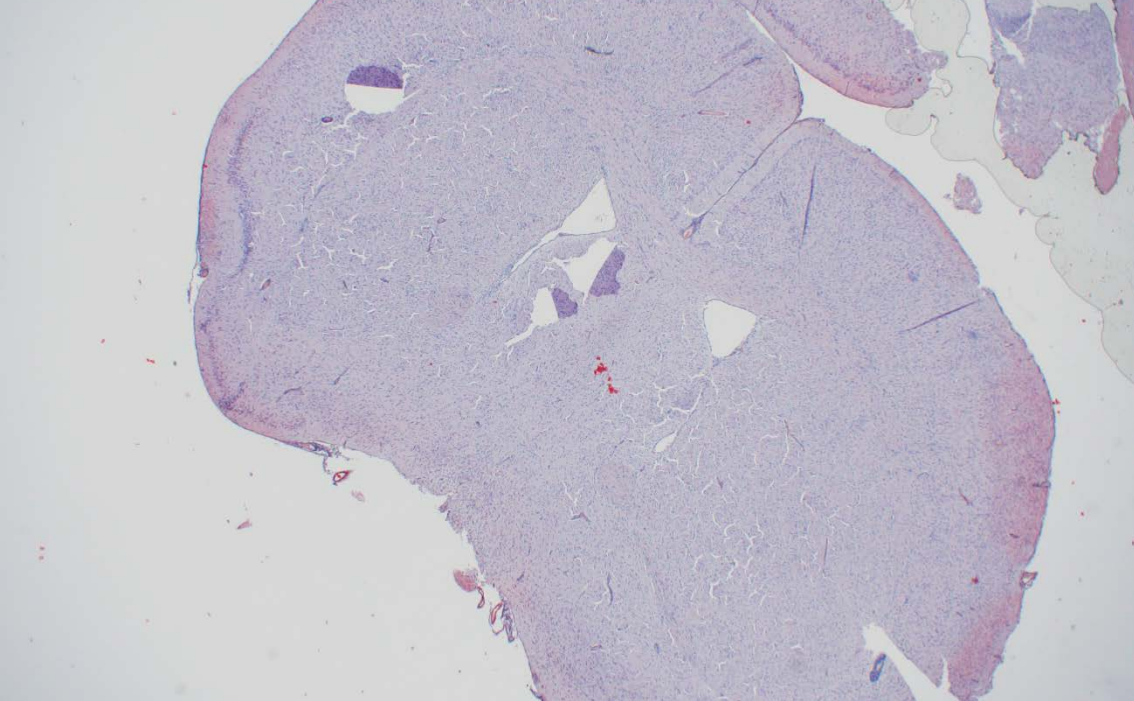


Mouse 1 : brain

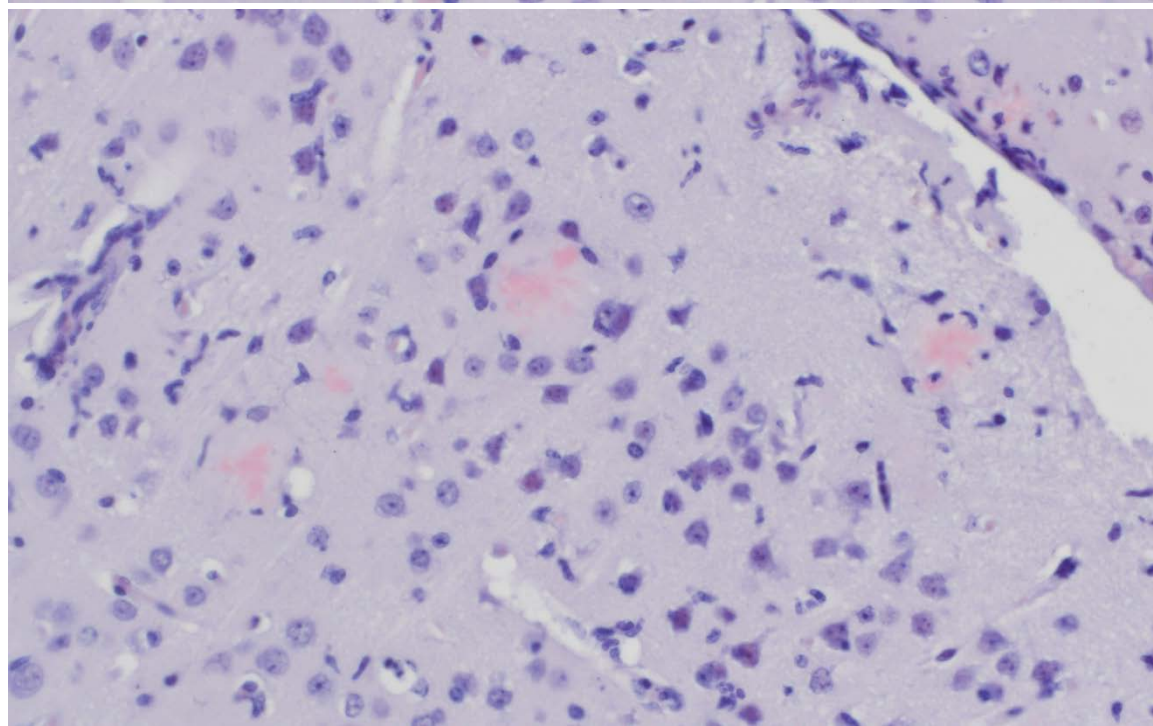
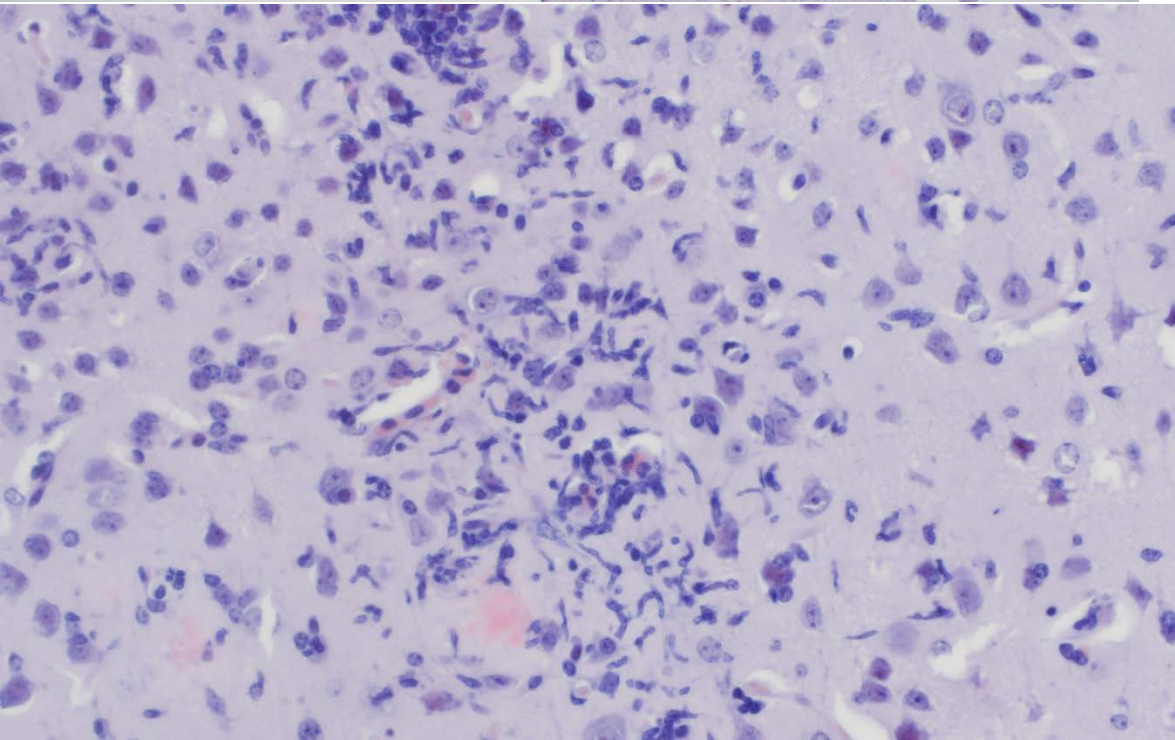
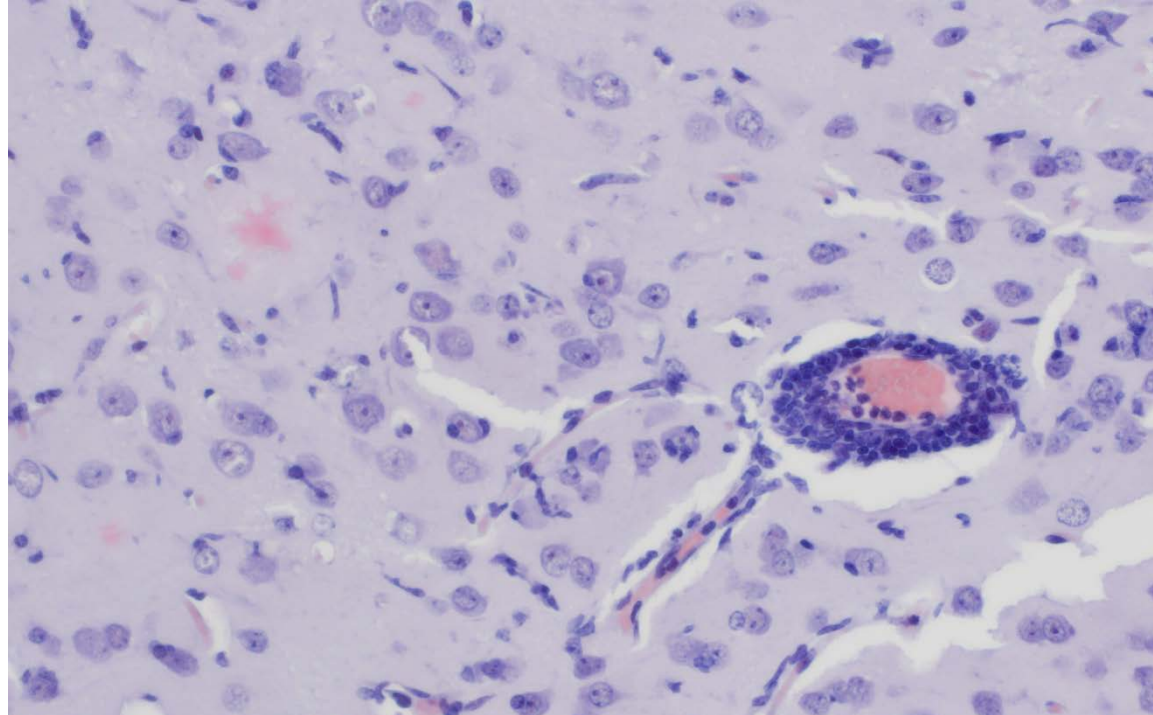


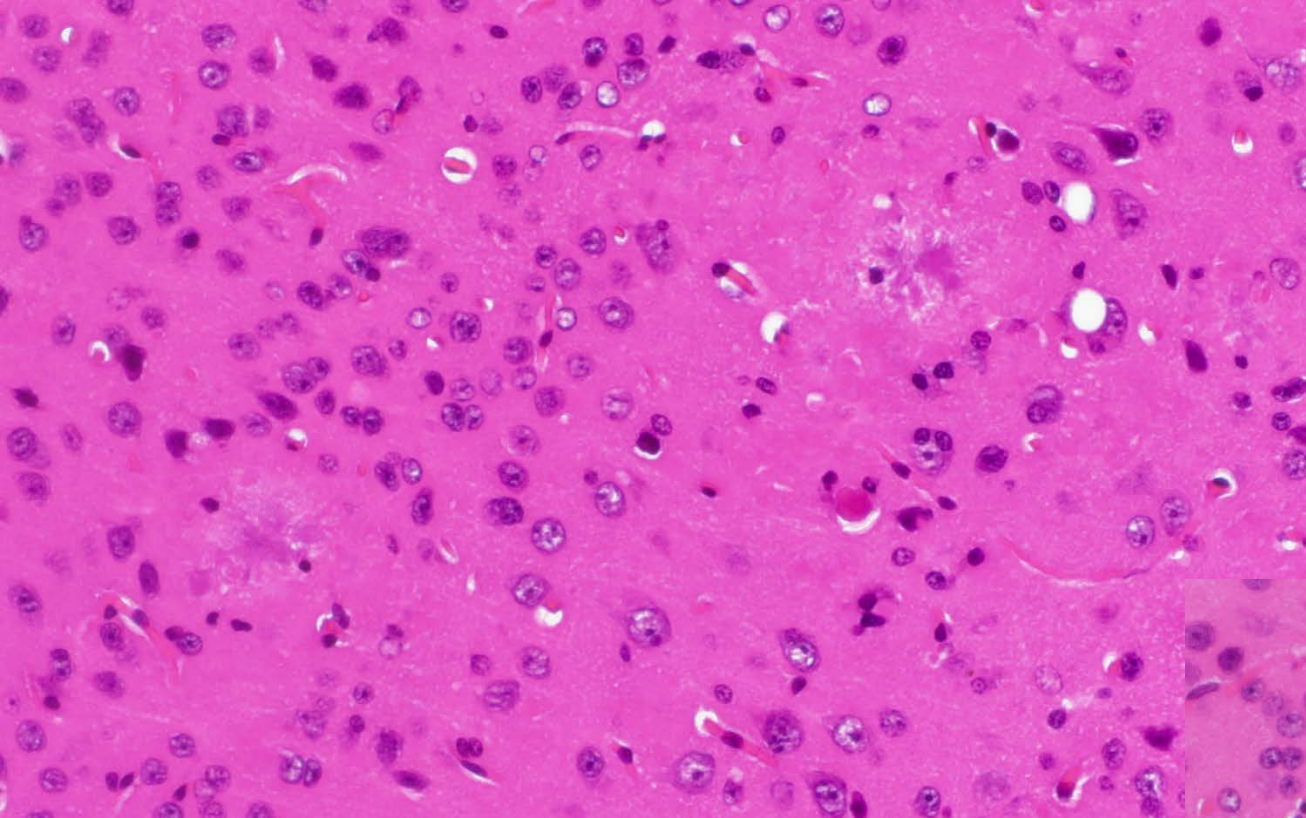




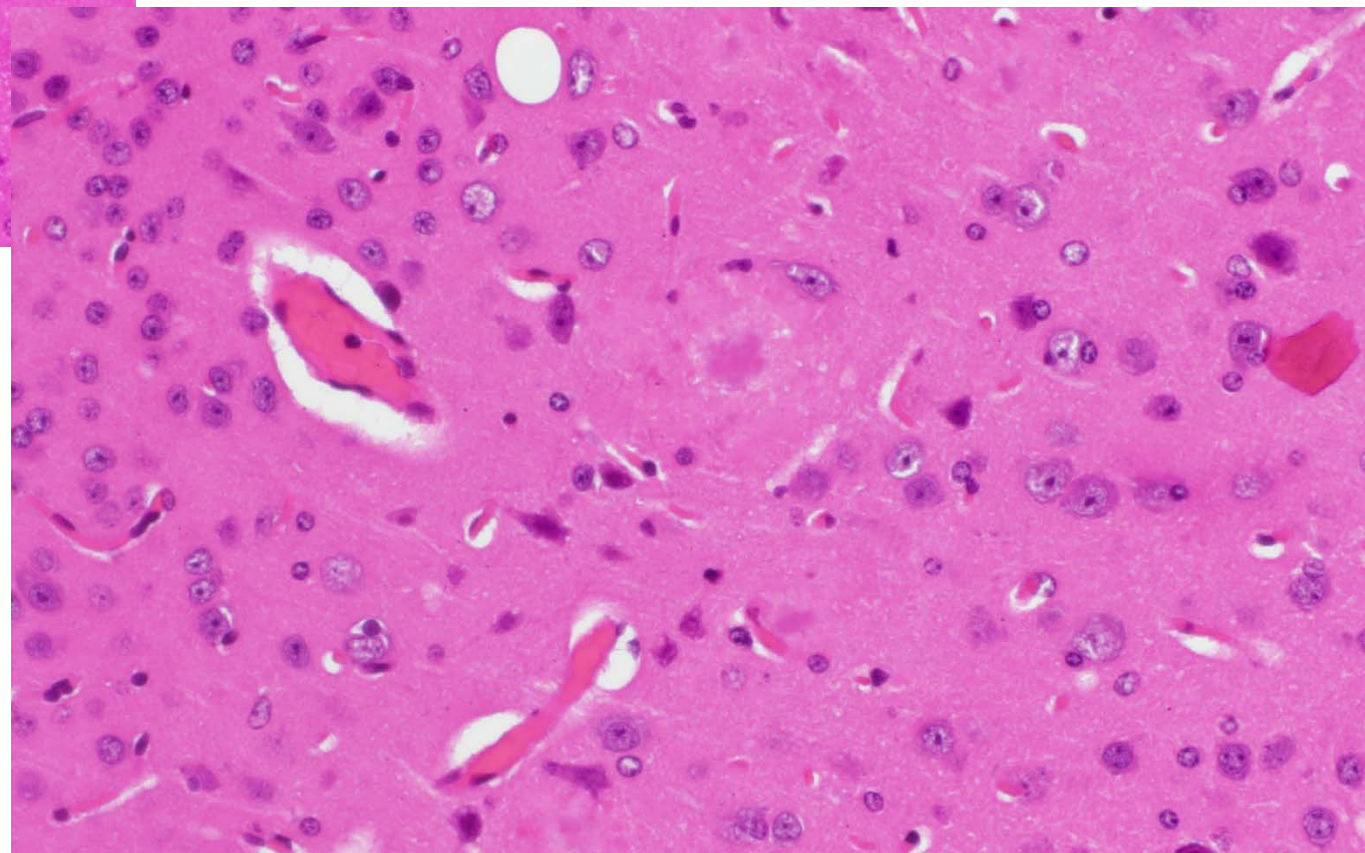


Congo red





Mouse 2



Mouse 3

Diagnosis: Brain

- Mouse 1 : moderate diffuse **lymphoplasmacytic meningoencephalitis** with **multifocal gliosis** (and amyloid deposits)
 - changes not totally consistent with APP
 - suggests an infectious, possibly viral cause
- Mouse 2,3 : multifocal amyloid deposits, grey matter
 - consistent with APP model

General Notes on Lab Animal Histology testing

- **Tissues and organs are usually forwarded for histology under the following 2 general headings:**
- **Planned testing:** here lab animals are part of a study or series of studies, and animals are euthanased and necropsied at planned times throughout the study.
- Some studies are preliminary, and require full post mortem sampling and examination of all organ systems by histology to assess unknown effects of treatment on the animal
- Some studies may be more targeted, where specific organ/s are harvested and examined
- **Unexplained deaths during study, or in Lab Animal facility :** most studies will require that any animals that die unexpectedly be subjected to a full post mortem examination to try and detect the cause of death
- The post mortem should be done as soon as the animal is discovered to try and lessen the effect that post mortem decomposition will have on the quality and diagnostic utility of the sampled organs.

Sampling for Histological examination:

- Histology is a useful way to look for morphological changes that may have occurred due to unexpected disease/mortality, or the effect of study treatment. Other test modalities may also be used in lab animal work eg. Serology, hematology, biochemistry, microbial culture, PCR etc.
- Typically the post mortem is done at the animal house by the facilities personnel
- All tissues should be placed in 10% buffered formalin for fixation as soon as possible after death. The ratio of formalin:tissue by volume is 10:1 ie. you need 10x as much formalin as there is tissue for adequate fixation.
- Single containers of formalin should contain only organs from 1 animal, and should be accurately labelled with the study animal's number
- If an animal dies unexpectedly, the post mortem should be complete, and done as soon as possible to limit post mortem decomposition.



Samples required for histopathology

- Central nervous system : complete brain, section of spinal cord (or 1 cm section of spinal canal with cord)
- Normal and affected skin (if any)
- Tongue, oesophagus, stomach, small and large intestine: sometimes it is easiest to take the whole small and large intestine as a whole, and fill with formalin via injection through the wall with formalin (use 23 guage needle and syringe)
- Whole heart, entire lungs, entire spleen/liver, pancreas, one entire kidney, bladder
- 2 x lymph nodes – mesenteric and one other
- 2 x Skeletal muscle – forelimb, hindlimb
- 1x diaphragm
- 1 x entire femur
- Adrenal, thyroid, pituitary (if did not come out with brain-sometimes very small and hard to get)
- Any affected/abnormal tissue not sampled above eg. Eye, bone, footpad etc

Other tests

- Samples for microbiology : such as tissue or swabs if you think there has been as bacterial infection
- Dry swabs of tissue if you wish PCR (for viruses)
- Stomach contents/feed
- Faeces
- Specific testing/requests

