Report on Genome Training: Observation and analysis of ovary specimen
Facilitator: Fujihara-Sensei
Duration: 2023/10/24-27

DAY 1: Training started by a two hours lecture meant to orient participants on various scientific issues surrounding ovary analysis as well as introducing different procedure to abide during the course. Later, I dissected two ovary specimens, one frozen Rabbit and fresh Dog, afterwards measured their weight that amounted to 0.1903 g and 0.1807g respectively. The tissues were dissected into six pieces, fixed with Bouins solution for 2 Hours. Then tissue dehydration was performed with 100% Ethanol and incubated for 24 hours.

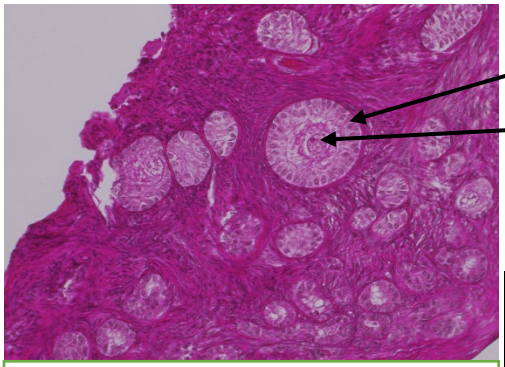
DAY 2: Paraffin embedding was done after cleaning and paraffin infiltration. During this time, I got to learn functions of different chemical solutions used in this procedure. For instance, Xylene is intermediate solvent for replacing prior used Ethanol because Xylene is miscible with both Ethanol and Paraffin, ideal for subsequent steps.

Thereafter, paraffin embedding of all the tissues was done. In this step, working at 60^0 C is essential because paraffin melts at 60^0 C, suitable for its usage. Therefore, it is important to set the water bath and hot plate at 60^0 C. I made two tissue embedded paraffin block for Rabbit and dog, then stored the cassette at 4^0 C

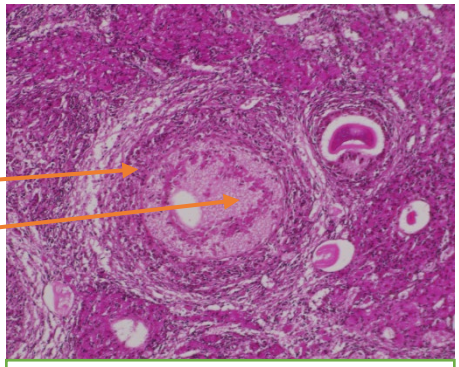
DAY 3: I started by cleaning the tissue embedded paraffin block using the protocol and thereafter sectioning was done. Tissue sectioning is a very trick stage thus I learned how to carefully perform tissue sectioning using **Leica RM 2145** machine by starting cutting adjustments from 30 µm to 15 µm and finally cutting the tissue at 5 µm for histological analysis.

DAY 4: On this day, I performed Hematoxylin and Eosin staining of my tissue sectioned specimen during which I learned functions of different solutions. Two staining are done in this stage, first Hematoxylin staining done by hematoxylin solution that target and stain **nucleus** of oocyte and Eosin staining done by Eosin solution that stain cell membrane and other part of oocyte. Mounting was done and specimen stored overnight.

DAY 5: Visualization i.e Histological assay of the Frozen Rabbit and Fresh Dog specimens. Below are the result I got and a brief analysis.



Dog Fresh 1 (20X magnification)



Both specimens were good with healthy oocyte

Frozen Rabbit (40X magnification)

- Fresh tissue appears more flattened than frozen which is somehow wrinkled
- I have learned how to understand ovarian assay analysis of irregular specimens like diseased, damaged and also identification of fat deposit in the picture.
- I also learned how to use two microscopes available for visualization.