**Intestinal roll preparation for staining**

1. Euthanize the mouse using CO2 in accordance with ethical approval. Place mouse in a supine position and wet the fur using 70% EtOH, open the intra-peritoneal cavity longitudinally along the midline using scissors;

2. Use scissors to separate the small intestine from the stomach by transecting the pyloric sphincter. Gently remove the small intestine to cold PBS, teasing away the mesenteric fat by curved forceps;

3. Use scissors to excise intestine. To remove intestinal contents, gently flush intestines with PBS for 6 times;

4. Put the intestine in Zinc Formalin with 50ml tube overnight;

5. Use water to wash away Zinc Formalin, repeat the process for 6 times and put the intestine into 70% EtOH for 2-4 hours;

6. Roll the intestine into jelly rolls gently and use 27G needle to pinpoint the rolled intestine.

7. Paraffin sectioned the jelly rolls, and stain the section using standard Immunostaining procedure in our lab.