

## THE ILLUSTRATION OF A RAT LARGE INTESTINE: A MODEL FOR THE EFFECT OF CARCINOGENS

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**Introduction:** Rat large intestine is an established model to study the effect of carcinogens. There are several distinctive features among mammalian gastrointestinal tracts in gross anatomy but they share some basic similar structures. The variety in digestive system relies on its physiology. Rats rarely eat high fatty diets, thus the function of gall bladder become less significant in their digestive system and this is justified by the fact that rats have none. Rats have large caecum designated for their fermentation chamber to digest cellulose. Another notable difference is the size and length of colon itself, in which human colon is significantly bigger and longer. We aimed to demonstrate the gross anatomy and histology of rat digestive system particularly the large intestine.

**Materials and method:** Abdominal cavity was opened and rat digestive system *in situ* was identified. The whole digestive tube was released from the mesentery. The length of large intestine was measured and flushed with phosphate buffered saline to remove its contents. Representative samples from the large intestine were taken and fixed with Carnoy's solution and neutral buffered formalin for histological study.

**Results:** The most obvious region in rat large intestine was the caecum and no obvious partitions of large intestine as in human. Nevertheless, the histology of rat large intestine resembled the human. Gall bladder and appendix were absent in rats.

**Conclusion:** Besides smaller in size and length, rat large intestine has a larger caecum compared to human. There is similarity between the large intestinal wall in rat and human microscopically.