

Thesis Title Gastric Microcirculation of the Common
Tree Shrew (*Tupaia glis*)
Name Thaworn Mingsakul
Degree Master of Science (Anatomy)
Thesis Supervisory Committee
 Roen Somana, M.D., Ph.D.
 Vijittra Leardkamolkarn, Ph.D.
 Chainarong Cherdchu, Ph.D.
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ABSTRACT

The microvasculature of the stomach including lower esophagus and gastroduodenal junction in common tree shrew (*Tupaia glis*) was demonstrated by corrosion vascular cast along with conventional scanning electron microscopy (SEM) and paraffin technique. The luminal surface of lower esophagus is usually lined with squamous epithelium and occasionally with simple columnar epithelium with gastric pits. The simple columnar cells lining the gastric pits were observed on entire luminal surface of the stomach. Abrupt changing from the simple columnar cells lining to that with goblet cells were seen at the gastroduodenal (GD) junction. In addition, thickening of circular muscle of the pyloric sphincter was observed at this area. The stomach received blood supply from all branches of celiac trunk. The delicate serosal capillary network was derived from arterioles branched from the gastric arteries while penetrating the gastric wall. The muscular vasculature was derived from branches of the gastric arteries and the

underlining submucosal arterioles. The distribution of capillaries in muscular layer followed the direction of muscle fibers. A prominent numerous vascular plexus was seen in the submucosal tunic. This plexus gave rise to arterioles supplying the muscular and mucosal tunics. The subepithelial capillary network was observed at luminal surface of the mucosa. The mucosal capillaries of lower esophagus showed longitudinal folds with honeycomb-like network. Changing from hexagonal network to ridge-like pattern of capillaries supplying the mucosa was observed at the gastroesophageal (GU) junction. The mucosal venules coursed outward to become the submucosal veins which coursed toward the serosal surface before draining into the gastric veins which finally emptied the venous blood into the portal vein. These findings were similar to the microvasculature in the antral mucosa of human stomach.