

Thesis Title Cochlear Angioarchitecture in Common Tree Shrew
(*Tupaia glis*) as Revealed by Corrosion Cast
Technique/SEM

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ABSTRACT

Twenty adult common tree shrews of both sexes, weighing 110-170 g, were divided into 3 groups for the study of cochlea with light microscope (LM), scanning electron microscope (SEM) and with corrosion cast technique/SEM, respectively. It was found that the cochlea is lodged in anterior part of the petrous portion of temporal bone. It resembles a snail shell and is with three turns. Its apex or cupola points anteroinferiorly and laterally. The lumen of the cochlea is partitioned into three spiral chambers; scala vestibuli, scala media or cochlear duct and scala tympani. The outer wall of the cochlear duct is a specialized epithelium called stria vascularis as it contains a lot of small blood vessels. The cochlea receives arterial supply from the spiral modiolar artery which is a branch of labyrinthine artery. The spiral modiolar artery ascends in a spiral manner around the cochlear nerve in the modiulus. It gives rise to several radiating arterioles and numerous capillaries to supply the spiral ganglion. The radiating arterioles are distributing to supply the lateral wall of scala vestibuli and further divide into capillaries in the stria vascularis on the lateral wall of scala media. The capillaries networks in the stria vascularis descend along the lateral wall of the cochlea to form the collecting venules which subsequently drain the blood into the spiral modiolar vein.