

The Accumulation of p-Aminohippurate and Chlorphenol Red In Slices of Dogfish Kidney

J. H. Copenhaver
Dartmouth College

Incubation of thin slices of Dogfish kidney with varying concentrations of chlorphenol red in a suitable oxygenated medium for 20 minutes at 25° C. did not produce any luminal concentration of the dye. Thus, these preparations behave qualitatively like slices of mammalian kidney cortex *in vitro* and, unlike teased preparations of teleost and amphibian kidneys, lack an active cell to lumen transport process. Chlorphenol red, over a range of 0.000033 to 0.002 M, was accumulated by slices at a rate proportional to concentration (0.18 to 7.1 micromoles/gm./20 min.) without inhibition of respiration. p-Aminohippurate, over the same concentration range was accumulated at the rate of 0.17 to 2.9 micromoles/gm/20 min. The accumulation of PAH from a 0.00033 M solution was markedly inhibited by chlorphenol red at 1/10th or more of that molarity. Contrarywise, the accumulation of chlorphenol red from a 0.00017 M solution was not inhibited by PAH until the latter was 10X more concentrated.

Electron Microscopy of Saline Secretion

William L. Doyle
The University of Chicago

Normal and treated dogfish, *Squalus*, were used for continuing studies on the fine-structure of the rectal salt-gland. Variant fixation procedures were used, and the material was embedded in epoxy resin. Previous work on the nasal salt-gland of sea gulls revealed that the cytoplasm of the principal cells is deeply cleft into leaflets by basal infoldings of the cell membrane. In contrast, the cells of the rectal salt gland of elasmobranchs show marked lateral infoldings of cell borders and the presence of a complex series of vesicular elements. Vacuoles arise at the cell borders and other vacuoles fuse with the lumen of the tubule.

A variety of other organisms was prepared for exploratory examination of salt secreting mechanisms.

Urea and Ammonia Excretion in the Frog

Lewis D. Fineman and David B. Ludlum
New York University School of Medicine

A study was undertaken of urea and ammonia excretion by the skin and kidney of local (*R. clamitans*) and bull (*R. catesbiana*) frogs. Unpublished studies by Homer W. Smith had shown that ammonia in addi-