

Additional materials prepared for subsequent electron microscopic examination include spiral valve, gall bladder and spleen of Squalus and the lower intestine of Fundulus.

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#### BULK FLOW BETWEEN THE CEREBELLUM AND THE CEREBELLAR VENTRICLE FLUID IN Squalus acanthias

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The brain ventricular system of Squalus acanthias consists of two lateral ventricles in the olfactory lobes, a third ventricle in the midbrain, a fourth ventricle in the medulla, a cerebellar ventricle, and an optic lobe ventricle. All ventricles are communicating, thus allowing a free flow of ventricular fluid between them. The lateral, third, and fourth ventricles contain choroid plexus tissue; the cerebellar and optic lobe ventricles are devoid of such tissue. If the cerebellar ventricle can be isolated from the ventricular fluid circulation by occluding its connection to the ventricular system, it would be possible to study the transport of material between the ventricular fluid of the cerebellum, the cerebellum, and the blood uncomplicated by the presence of the choroid plexus.

Several methods were tried to obstruct the flow of ventricular fluid into the cerebellar ventricle. All methods were checked for effectiveness by injecting small amounts of fluorescent dye into the lateral and/or fourth ventricles and examining the cerebellar ventricular fluid for fluorescence. The best blockage was obtained by injecting latex into the aqueduct between the third and fourth ventricles via an opening in the optic lobes.

By placing inflow and outflow cannulae into the cerebellar ventricle after blocking the opening with latex, a perfusion system was set up. Using a  $C^{14}$ -inulin dilution technique in this system, it is possible to detect and estimate bulk flow of fluid between the cerebellum and its ventricle. The results from one experiment (six determinations) indicated little or no volume flow from the cerebellum into the cerebellar ventricle ( $0.04 \mu\text{l}/\text{min.} \pm 0.05$  = mean flow rate  $\pm$  standard error of the mean). Oppelt, Patlak, Zubrod, and Rall (Comp. Biochem. Physiol. 12:171-77, 1964) measured a total ventricular fluid production rate for Squalus of  $4 \mu\text{l}/\text{min.}$  It appears that the principal site (or sites) of ventricular fluid production is (or are) not located in the cerebellum.

#### NITROGEN METABOLISM IN FISH: BLUTAMATE DEAMINATION AND AMINO ACID TRANSDEAMINATION BY EEL (Anguilla rostrata) LIVER MITOCHONDRIA

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Crude homogenates of eel liver were previously demonstrated to deaminate glutamate and transdeaminate alanine (McBean, Neppel, and Goldstein, Comp. Biochem. Physiol. 18:909, 1966). We extended these observations to isolated liver mitochondria in this study. Mitochondria were