The First Report of the Occurrence of Cilium in Fat-Storing Cells in the Reptilian Liver (*Eumeces algeriensis*, Daudin 1802)

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Summary. Fat-storing cells in the liver of an adult Schneider's skink were investigated by means of transmission electron microscopy. The fat-storing cells were localized in the perisinusoidal space or in the hepatic “recessus”. They revealed a single cilium originating from one of the paired centrioles and projecting into the perisinusoidal space. The functional significance of a single cilium in the fat-storing cell is still unclear.

The fat-storing cell (FSC) or Ito cell has already been extensively studied. Many authors point out that the FSC is generally encountered in the perisinusoidal space (space of Disse) or in the hepatic “recessus” (ITO, 1973; TATSUMI and FUJITA, 1983; FUJITA et al., 1986).

The functional significance of this cell is closely attributed to its capacity to store vitamin A (Takahashi et al., 1978; TATSUMI and FUJITA, 1983). Other authors, however, have reported that the FSC may be engaged in the formation of collagen fibrils in the space of Disse (TAIRA and MUTOH, 1981; FAHIMI, 1982; TANUMA et al., 1982).

The FSC in humans (ITO and SHIBASAKI, 1968; TOBE et al., 1985), the monkey (TANUMA et al., 1983), kitten (TANUMA et al., 1981), rat (YAMAMOTO and ENZAN, 1975), guinea pig (OHATA et al., 1984), bat (TANUMA and ITO, 1978), avian (OHATA et al., 1982a) and fish (TANUMA and ITO, 1980) livers have also been reported to possess a solitary cilium. It is not known whether FSCs in reptilian livers may also have the same structure.

In the present study the liver of adult Schneider’s skink (*Eumeces algeriensis*, Daudin 1802) was examined by transmission electron microscopy. The FSCs are situated in the perisinusoidal space as described in humans and other vertebrates. The FSC exhibits a single cilium originating from one of the paired centrioles which can clearly be observed, as shown in Figure 1. From this centriole, a cilium projects into the perisinusoidal space.

In other animal species, it is supposed that a single cilium may be sensory in nature, most probably a chemoreceptor (OHATA et al., 1982b), although its functional significance in the FSCs of higher vertebrates is still unclear.

This is the first description of a single cilium in the FSC of reptiles.
Fig. 1. Fat-storing cell of the Schneider's skink showing a single cilium (SC) originating from one of the paired centrioles (C) surrounded by a Golgi apparatus (G). Note the single cilium projecting to the perisinusoidal space (PS). ×50,000

REFERENCES


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