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Viability of hamster epididymal epithelium cultures *in vitro*

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Mammalian epididymal epithelium provides poorly identified but definite modifications to sperm maturation in the epididymis. Different in vitro techniques have been developed to investigate the modifications provided by the epididymal epithelium (Moore et al., 1998). However, initially culture of epididymal epithelium has to be successful before such investigations were carried out. In this study hamster epididymal epithelium was cultured successfully for up to 35 days. Epididymal epithelium was separated using effective collagenase digestion and the prepared epididymal plaques were cultured in 24 culture well plates using principal cell medium at 37 ^{0}C.

Epithelial nature of the cultured cells was immune-detected at different time intervals. With anti-pan cytokeratin, detection percentage epithelial nature changes from 71 (7 % (on day 1), 84 (3 % (on day 7), 51 (4 % (on day 14), 46 (4 % (on day 21), 27 (6 % (on day 28) and 19 (67 % (on day 35). With principal cell specific C5 monoclonal antibody (Smith et al., 1986) the percentage positive cells detected were 68 (6 % (on day 1), 77 (6 % (on day 7), 55 (8 % (on day 14), 50 (10 % (on day 21), 30 (8 % (on day 28) and 32 (6 % (on day 35).

This study showed that culture of epididymal epithelium was successful up to 35 days but the majority epididymal epithelium cells were maintained only until the 14th day. It has also been held as a matter of fact that the culture of the epithelium without basement membrane material will lead to loss of primary objective, functional aspect (Carballada *et al*, 1997). This study used epithelium plaques, without completely purifying epithelium, and therefore meets necessary requirements.

Maintenance of rat and human epididymal epithelia *in vitro* has also been carried out with promising results (Moore, 1998). Cooper *et al*, (1990) obtained polarized cell cultures of the human epididymal epithelium after long-term culture (42 days) although no further details were examined. Therefore, it is essential to develop optimal conditions for the culture of epididymal epithelium in vitro that will closely mimic processes of the epididymis in situ. The system is useful in the identification of molecular events in sperm maturation (Moor *et al* 1998).

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