Expression of membrane transporters in Sertoli cells.

Sertoli cells in the testes play a pivotal role in spermatogenesis. Mice deficient in the transporters Sodium Potassium chloride cotransporter-NKCC 1 failed to produce sperm indicating a role for NKCC1 and possibly other membrane transporters in spermatogenesis. Defects in the CFTR gene are also associated with loss of fertility. The long-term goal is to understand the relative expression patterns and the role of NKCC1 and other membrane transporters namely Sodium Hydrogen exchanger- NHE1, the ceramide transporter ABCA12, and the Sodium bicarbonate transporter NBCe1 and CFTR in spermatogenesis. In this poster, we will present protocols that are being developed to study the expression of these transporters. A mouse Sertoli cell line -TM4 was cultured. Total RNA was extracted from these cells. Primers were designed and obtained for NKCC1, NHE1, CFTR, ABCA12, NBCe1 and the housekeeping protein GAPDH (Glyceraldehyde-3 phosphate dehydrogenase). Initial studies were carried out using RT-PCR (reverse transcriptase-polymerase chain reaction) to determine the basal expression of NKCC1, ABCA 12 and the housekeeping protein GAPDH (Glyceraldehyde phosphate dehydrogenase).