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# Identification and Characterization of an Antigen Recognized by Monoclonal Antibody TRA 54 in Mouse Epididymis and Vas Deferens

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Spermatozoa in testicular fluid are known to have weak forward motility and cannot fertilize eggs. The epididymis is known to participate in sperm maturation leading fertilization, but little is known about the specific epididymal molecules involved in the modification of sperm. In this study, we characterized the new pattern of expression of an antigen previously identified in testicular germ cells by monoclonal antibody (mAb) TRA 54. This antigen is expressed in epididymal and vas deferens epithelial cells in mice older than 24 days but not during younger developmental stages. Evaluation by immunohistochemistry shows that antigen expression is limited to the cytoplasm of a specific cell population of epithelia along the epididymal regions and vas deferens of adult mice. The molecules synthesized and released by epididymal and vas deferens epithelia into their lumen seem to bind on spermatozoa moving down through the ducts. Immunoblot analysis showed that the molecules recognized by mAb TRA 54 in testis and epididymis were similar and share a common epitope involving carbohydrate domains. Interestingly, the antigens identified in epididymal and vas deferens epithelial cells were expressed independently of testicular germ cells and are produced in an androgen-dependent manner. Finally, the molecules recognized by mAb TRA 54 seem to play an important role in spermatogenesis, as well as in epididymal function related to spermatozoa maturation and ability to fertilize.

Key words: Testis, sperm antigens, cryptorchidism, castration, testosterone replacement

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