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JOURNAL ARTICLE

Epididymal fluid macromolecules do not act as auto- or alloantigens

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Because epididymal secretory glycoproteins form important functional associations with maturing spermatozoa, the possibility has been explored that epididymal antigens might be useful in contraceptive vaccine development. Male and female rabbits, hamsters, and rats were immunized for several weeks with epididymal fluid, initially either with complete Freund's adjuvant, or conjugated with glutaraldehyde. Some female rabbits were also immunized using albumin-free rabbit epididymal fluid. The sera of all the immunized animals were then examined for autogenous, allogeneic, or [in guinea pigs also] xenogeneic immune responses, using immunodiffusion and ELISA techniques. In each instance, xenogeneic immunization produced a marked antibody response. However, no animals developed any detectable antibody reactive with epididymal fluids following auto- or alloimmunization (ie with fluid from the same species), and they remained fertile even when immunized males were mated with immunized females. Furthermore, when female rabbits were immunized with ejaculated rabbit spermatozoa, they produced antibodies reactive only with the sperm homogenate, but not with any epididymal fluid component. These results indicate that macromolecules secreted by the epididymis, including those that associate with spermatozoa, do not act as auto- or alloantigens and, at present, would seem to have no immediate promise for contraceptive vaccine development in males or females.