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JOURNAL ARTICLE

Origin of an 84-kDa protein with ABH blood-typing antigen activity in human seminal plasma

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In order to investigate the origin of an 84-kDa protein with ABH blood-typing antigen activity (p 84) and its concentration in human seminal plasma, a monoclonal antibody (mAb p 84) was produced. The protein was recognized in breast milk as well as in seminal plasma by an indirect, enzyme-linked immunosorbent assay (ELISA) using this mAb. mAb p 84 identified 84-kDa and 83-kDa forms of the protein in seminal plasma and breast milk, respectively, on immunoblotting. The mean concentration of p 84 in seminal plasma was 949 microg/ml (n = 54 subjects). There was no significant difference in the concentration of p 84 between individuals who secreted (Se) or did not secrete (non-se) the ABH antigen into their seminal plasma, nor were there any significant correlations between the concentration of p 84 and the total seminal protein concentration. An immunohistochemical study using mAb p 84 with light microscopic detection showed that p 84 was located in the cytoplasm of the inner layer of pseudostratified cuboidal epithelial cells of the seminal vesicles, but no immunoreactivity was found in the prostate. These data indicate that p 84 originates from a single tissue, the seminal vesicles, and suggest that p 84 is an ABH epitope-bearing protein that has not previously been identified but possesses some immunological properties similar to those of lactotransferrin.

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