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## JOURNAL ARTICLE

# Similar biochemical properties of human seminal plasma and epididymal alpha-1,4-glucosidase

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We have studied some characteristics of alpha-1,4-glucosidases in human male reproductive organs in order to obtain information on the origin of the enzyme in seminal plasma. Acid and neutral enzymes could be distinguished on the basis of their selective inhibition either by SDS (acid enzyme) or MTT (neutral enzyme). Only the epididymis contained a significant amount of SDS resistant neutral alpha-1,4-glucosidase which was comparable to what has been isolated in seminal plasma. The similarity of epididymal and seminal plasma neutral enzymes was further confirmed by ultracentrifugation on sucrose density gradients, which permitted a complete separation of neutral (11S) and acid (4S) iso-enzymes. The 11S form was present in epididymis and in seminal plasma, but was totally absent in seminal vesicles, prostates and testis. The epididymal enzyme also had some of the unique characteristics found in the seminal plasma enzyme: it precipitated upon dialysis against distilled water, and its mobility on SDS polyacrylamide gel electrophoresis was identical to that of form 1 in seminal plasma. These results, although they do not constitute absolute proof of the identity of epididymal and seminal plasma alpha-glucosidase, certainly provide strong support for this hypothesis.

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