Proteolytic Activity of Human, Rabbit and Bull Semen With Special Reference to Peptidases in the Genital Tract of Male Rabbit

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American Journal of Physiology Published 1 August 1958 Vol. 194 no. 341-343 DOI:

Abstract

The semen of bull, rabbit and man hydrolyses various synthetic peptides but only human semen is active on casein. An investigation of the peptidase activity of extracts from the testes, epididymis, epididymal sperm and the accessory glands of the rabbit has revealed a strong peptidase activity. Semen plasma of vasectomized rabbits shows diminished peptidase activity as compared to normal seminal plasma. Grinding of the human or rabbit semen has no effect on the peptidase activity but grinding of bull semen increases this activity. Human semen has the highest activity with respect to all but one of the seven peptides tested. Human semen at first forms a gel which later dissolves but the gel formed from semen of rabbit does not. Bull semen does not form a gel. The stronger peptidase activity of the human semen may indicate that these enzymes play an important role in the complete breakdown of the gel forming proteins, whereas the occurrence of these enzymes in close connection to the spermatozoa in the other species suggests some role of peptidases for the metabolism of the spermatozoa or for fertilization.