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Human reproductive tissues contain thyrotropin releasing hormone (TRH) and TRH-homologous peptides

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Thyrotropin releasing hormone (TRH) immunoreactive peptides occur in high concentration within rat ventral prostate and human semen. To extend these observations to human reproductive organs, tissue fragments from human prostates undergoing benign hypertrophy were obtained by transurethral resection or open surgery. Human prostate, seminal vesicles, testes, and epididymis were also obtained from cadavers within 24 hours postmortem. After tissue extraction, the total TRH immunoreactivity (TRH IR) was measured by TRH radioimmunoassay. The total TRH IR in autopsy seminal vesicles was significantly greater (P less than 0.01) than in all other autopsy reproductive tissues. The mean autopsy TRH IR of prostate was not significantly different from that measured in prostatic tissue obtained at surgery. High pressure liquid chromatography of extracts of autopsy seminal vesicles, prostate, and testis revealed multiple peaks of TRH IR. The two major peaks corresponded to the two TRH-homologous peptides of human semen and one of the minor peaks cochromatographed with synthetic TRH. The distribution of TRH IR in human reproductive tissues appears to be very different from that in the rat, where ventral prostatic TRH IR levels exceed that of any other reproductive tissue by one to two orders of magnitude.

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