

Protease-sensitive urinary pheromones increased plasma concentration of progesterone in mammals

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Pheromones affect gonadal functions and sexual behaviors. They are received by the vomeronasal organ. Plasma progesterone concentrations in female Wistar rats after exposure to urine preparations with and without protease-treatment were measured to explore the effects of protease-sensitive pheromones on the endocrine state. Exposure to crude urine excreted from male rats induced an increase in the plasma progesterone concentration in female rats. The progesterone concentration of oestrous females increased with an increase in the protein concentration in urine samples. Exposure of females in the oestrous state to urine preparations treated with protease did not induce increases in plasma progesterone. These results suggest that the presence of a protease-sensitive component in male urine exerts an influence on the endocrine state of oestrous females.