

Non-neuronal endogenous GABA efflux from the rat oviduct.

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The subcellular distribution of Gamma-aminobutyric acid (GABA) was studied in the rat oviduct. The highest content of GABA was found in the soluble fraction. The effect of chemical stimulation of the endogenous GABA efflux from the rat oviduct was examined. High K⁺ concentrations could not induce elevation of the GABA efflux. Instead, a continuous spontaneous GABA efflux without change for long periods of time was observed. The total GABA content and GABA concentration were determined in the rat oviduct on days 1, 5, 10, 15, 30, 35 and 40 of the postnatal period and also during the estrous cycle. During postnatal development the GABA levels increase gradually with time reaching at prepuberal age a concentration similar to that found in diestrous rats. In the estrous cycle both GABA content and GABA concentration reached the highest value in the proestrous and the lowest value in the estrous phase. These findings support the hypothesis that GABA efflux may be modulated by the changes in oviductal fluid volume during the estrous cycle.