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## **IBOTENIC ACID-INDUCED LESIONS OF THE MEDIAL ZONA INCERTA DECREASE LORDOSIS BEHAVIOR IN THE FEMALE RAT**

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The hormonal induction of lordosis behavior in the laboratory rat has been shown to be dependent, at least in part, on the integrity of projections from the ventromedial hypothalamus (VMH) to the midbrain central gray (MCG). One area of the brain that has received little attention with respect to lordosis behavior in the female rat is the medial portion of the zona incerta (mZI). Recently, however, anatomical as well as electrophysiological evidence indicate that the mZI may play an important role in the neural regulation of female sexual behavior. The purpose of this study was to assess the effects on sexual receptivity in ovariectomized estrogen and progesterone primed female rats following bilateral injections of the selective neurotoxin, ibotenic acid, into the mZI.

All animals were ovariectomized (OVX) under ether anesthesia at least one week prior to surgery. Animals were randomly divided into two groups. Group 1 received bilateral injections of .3ul (10ug/1ul) ibotenic acid dissolved in phosphate buffered saline (ph 7). The injection was given over 60-90 seconds and the syringe was left in place for five minutes following injection. Group 2 was injected with .3ul PBS (sham injected). Five to 9 days following surgery, all animals were given a SC injection of 10ug estradiol benzoate (EB) in sesame oil and 1 mg of progesterone (P), 53 hours and 4 hours respectively, before each test. Lordosis quotient, along with the lordosis intensity scale were then determined for each female. All animals used were given two postoperative tests separated by a 5-6 day period. Ibotenic acid lesions of the mZI produced a marked decrease in sexual receptivity in OVX, EB and P primed females. These lesions, however did not abolish sexual receptivity. This is the first report to demonstrate that mZI neurons play a role in mediating sexual receptivity in the female rat.