

Norepinephrine Release After Mating Stimulation

(continued from page 1)

injection sites within the MePD at 4X magnification, and the lack of tissue damage around the site of injection at 40X magnification. There was no indication that local infusion of anti-DBH-SAP induced neurotoxic damage around the area of infusion, as similar numbers of neurons were present in anti-DBH-SAP and aCSF groups and

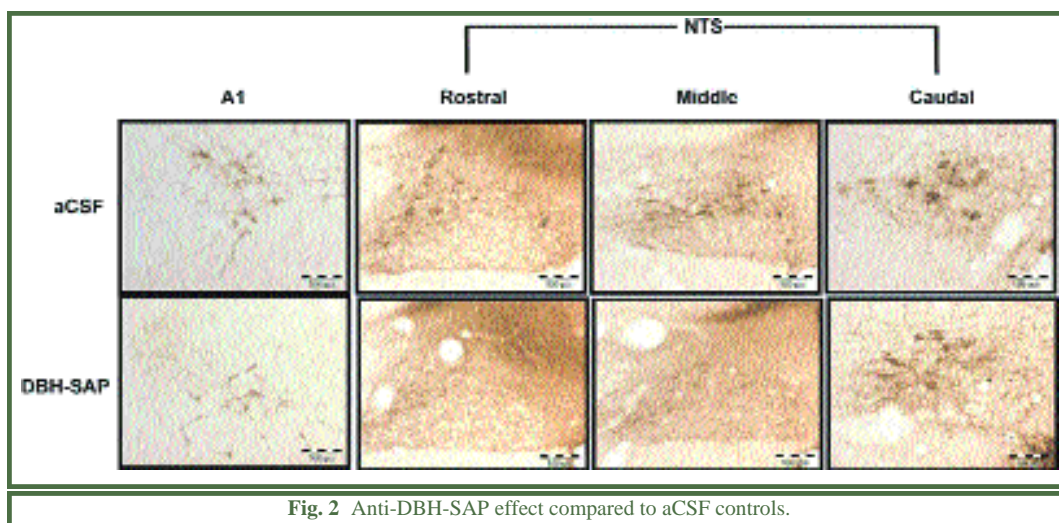


Fig. 2 Anti-DBH-SAP effect compared to aCSF controls.

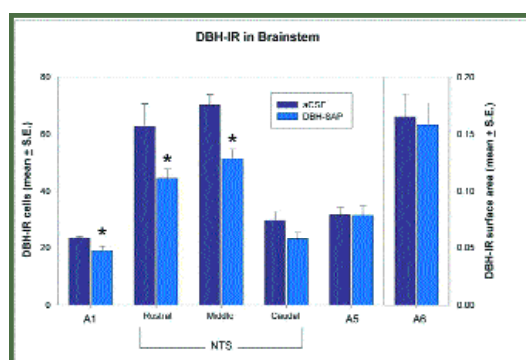


Fig. 3 Decrease in DBH-positive neurons after treatment with anti-DBH-SAP.

since there did not appear to be microglial infiltration around the injection site in either group. Figure 2 shows the effects of anti-DBH-SAP on the number of DBH-stained cells within the A1 and A2 (nucleus tractus solitarius, NTS) cell groups. Significant reductions in DBH-positive cells were observed compared to aCSF controls. Quantification of the results are shown in Figure 3, where it can be seen that decreases in DBH-positive neurons occurred in the A1 and rostral and middle NTS. These data demonstrated that noradrenergic projections to the MePD originate within the latter two cell groups.

Experiment 2:

Ovariectomized female rats were implanted with an intracerebral guide cannula targeting the left MePD, and were treated with estrogen and progesterone to induce sexual receptivity.

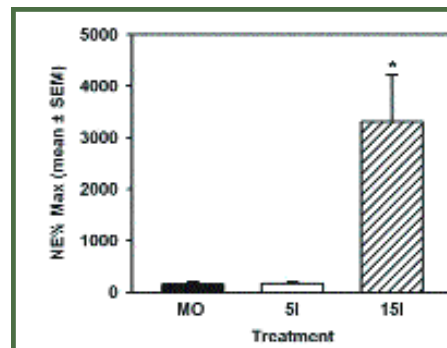


Fig. 4 Neuroendocrine increase after mating stimulation.

These data show that noradrenergic cells within the A1 and A2 cell groups of the brainstem project to the MePD, and suggest that norepinephrine release in response to mating stimulation may be involved in establishment of the neuroendocrine memory of pseudopregnancy.

References

1. Peinado-Manzano MA Amygdala, hippocampus and associative memory in rats. (1994) *Behav Brain Res* 61:175-190.
2. Paxinos, G & Watson, C. *The Rat Brain in Stereotaxic Coordinates*. (1986) Academic, San Diego.