

ROLE OF AMPA RECEPTORS IN THE LONG-TERM EFFECTS OF REPEATED SOCIAL DEFEAT ON THE COCAINE CONDITIONED REINFORCEMENT



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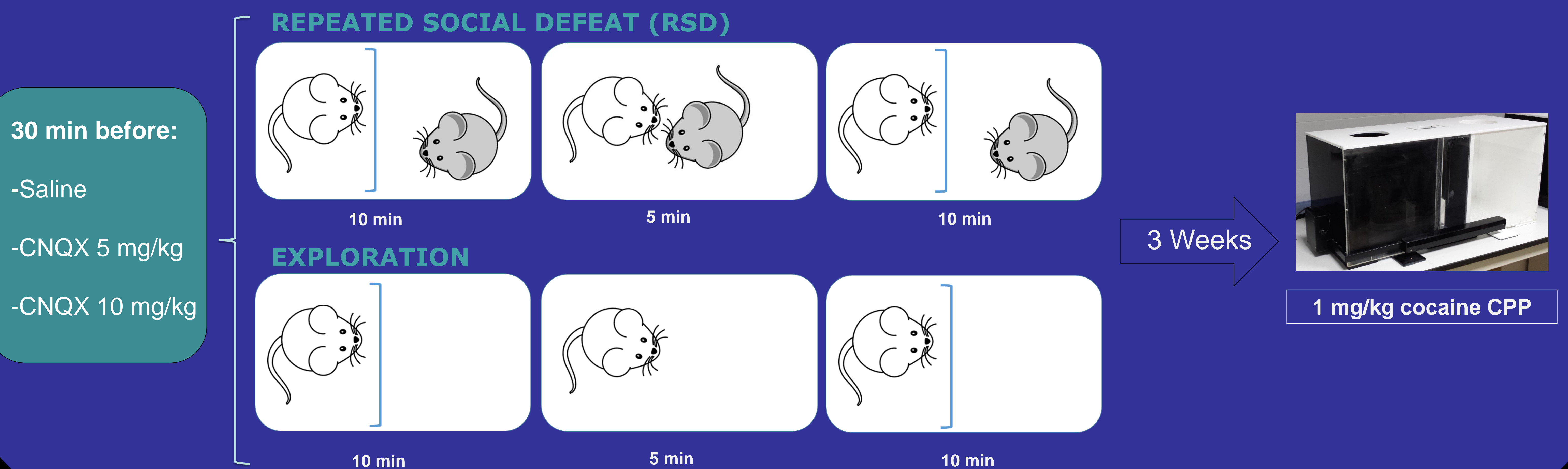
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INTRODUCTION

Cocaine addiction is a chronic disorder with repeated relapse, and social stress increases craving for the drug and its compulsive consumption. NAcc glutamate transmission is implicated in drug-seeking behavior, so the role of glutamate receptors, such as AMPA, is currently being researched for the development of new drug therapies for cocaine. The present study evaluates the involvement of AMPA receptors in the long-term effects of repeated social defeat (RSD) on rewarding effects of cocaine in the paradigm of conditioning place preference (CPP).

MATERIAL AND METHODS

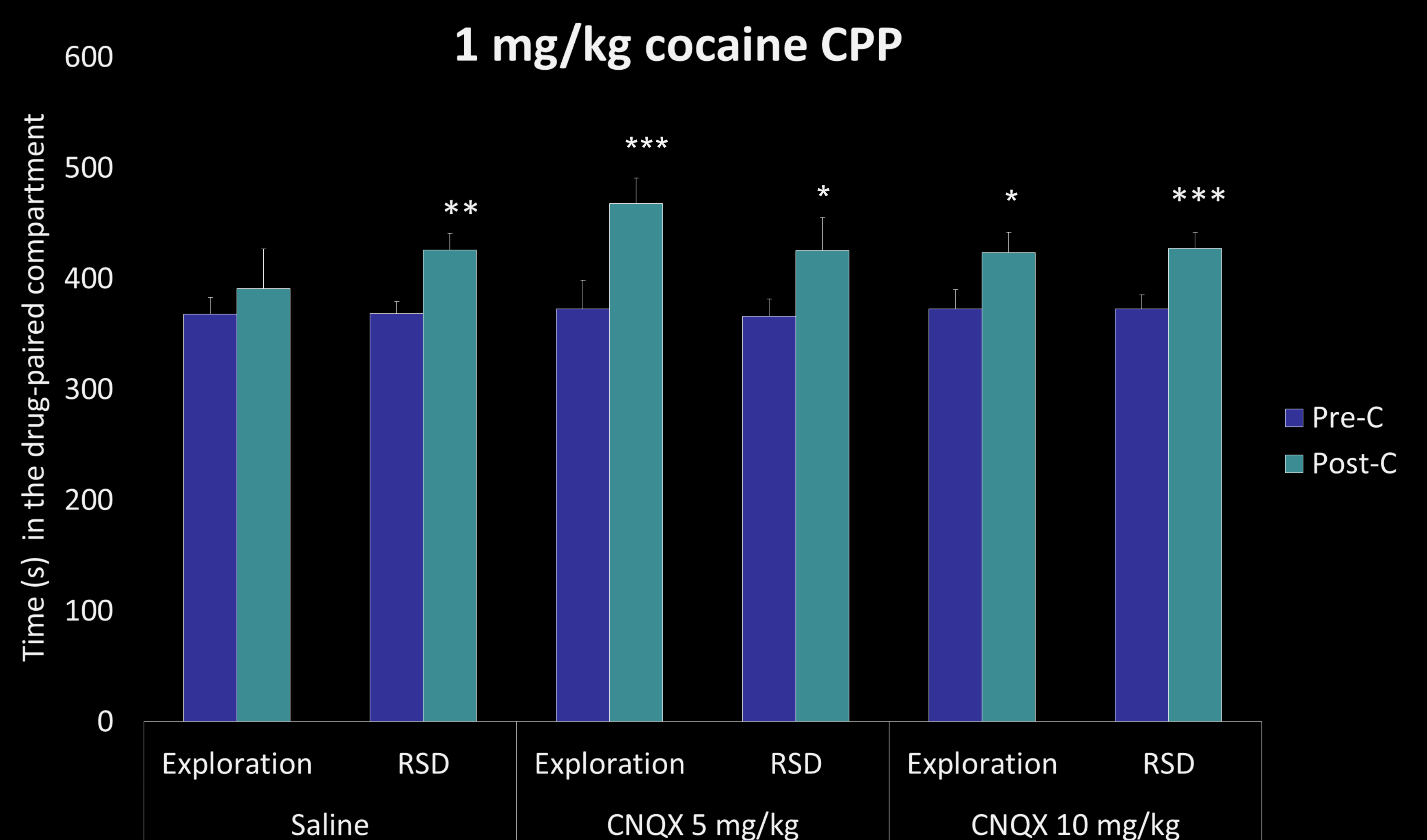
Adult male mice were exposed to four agonistic encounters of RSD or control. Animals received saline or an antagonist of AMPA glutamate receptors (CNQX) at doses of 5 or 10 mg/kg prior to each encounter or simulation. At three weeks, a CPP induced by a subthreshold dose of cocaine (1 mg/kg) was performed.



RESULTS

The results showed that RSD produces a long-term increase in the effects of cocaine. The administration of CNQX in any of the doses blocked the stress effects on rewarding properties of cocaine. Moreover, treatment with CNQX in the simulated conditions groups (Exploration) produced a cocaine-CPP, not observed in the group treated with saline.

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$ Vs. Pre-C



CONCLUSIONS

These results indicated that the blocked AMPA receptors caused a long-term increase of the associated rewarding-properties of cocaine. In conclusion, the AMPA receptors seem to not have affected the long-term effects of RSD on the reinforcing action of cocaine.

ACKNOWLEDGEMENTS

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