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**Title:** Cocaine conditioned place preference (CPP) in dopamine D4R mice  
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The dopamine (DA) D4R plays an important role in ADHD and that polymorphisms in the D4R are associated with novelty-seeking behavior (Burgos-Arcos, et al. 2004). Drug addiction has been linked to the same D4R alleles which are associated to novelty seeking (Kotler et al, 1997) and that the DA D4R is involved in the vulnerability to cocaine abuse (Katz et al, 2002). The role of the DA D4R in the behavioral effects of cocaine are similar to that of a stimulant, increasing locomotor activity and producing discriminative-stimulus effects on D4R mice (Katz et al, 2005). Previous studies have investigated the effects of methylphenidate (MP) and amphetamine (AMPH) CPP on D4R mice (Vavilis et al. 2005). The results showed there was no difference across D4R genotype with respect to CPP for AMPH but there was for MP. Specifically, the D4R mutant mice did not show CPP towards MP unless a high dose (3mg/kg) was used. Both MP and AMPH caused a dose response increase in locomotor activity. In the present study, we tested the CPP and locomotor effects of cocaine in two experiments using male D4R mice. Preliminary results (Expt 1) indicate no significant differences in CPP to 4mg/kg cocaine across the 3 groups of D4R mice, and that they all showed preference for the cocaine-paired compartment, along with significant increases in locomotor activity. We will also present our findings on the CPP to the 1mg/kg cocaine (Expt 2). The results obtained will be discussed with respect to previous CPP findings on the D4R mice and how these results relate to the theory that D4R plays a critical role in the behavioral profile of drug addiction. In addition, these results may help provide insight into the role of the D4R on behavioral response to different types of psychostimulants which would be important in better understanding the mechanism(s) of psychiatric diseases already implementing the D4R such as ADHD and drug abuse.

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