

Program#/Poster#: 478.14/NN10
Title: 5-HT_{2c} receptor antagonism enhances MDMA-stimulated NAcc DA levels and locomotor behavior
Location: Georgia World Congress Center: Halls B3-B5
Presentation Start/End Time: Monday, Oct 16, 2006, 2:00 PM - 3:00 PM
Authors: ***M. E. REVERON**, J. B. PRUS, C. L. DUVAUCHELLE;
Dept Pharmacology and Toxicology, Univ Texas Austin, Austin, TX.

3, 4-methylenedioxymethamphetamine (MDMA) is a psychostimulant that increases both serotonin (5-HT) and dopamine (DA) levels in reward- and motor-associated neural pathways. In this study, we evaluated the specific role of 5-HT_{2C} receptors in extracellular levels of nucleus accumbens (NAcc) DA and 5-HT, locomotor and spontaneous behaviors after acute MDMA administration. Operant-trained, MDMA-naïve rats were pretreated with SB242084 (1.0 mg/kg), a 5-HT_{2C} receptor antagonist, or saline prior to a self-administered infusion of MDMA (3.0 mg/kg) or saline. MDMA alone elicited a more pronounced increase in extracellular 5-HT ($\approx 1000\times$) and DA ($\approx 200\times$) than in saline-pretreated rats, with no observed group differences in MDMA-stimulated 5-HT enhancement. However, pretreatment with SB242084 induced a significant greater proportional increase in MDMA-stimulated DA levels compared to saline pretreated rats. In addition, locomotor activity was significantly higher than baseline levels after MDMA in SB242084 pretreated rats, but not in controls. Further behavioral analyses showed that low body posture (LBP), a specific behavior induced by MDMA, was modified in SB242084 pretreated rats. Overall, the results suggest that 5-HT_{2C} receptors serve an inhibitory role in MDMA-associated NAcc DA enhancement, and locomotor activation.

Disclosures: **M.E. Reveron** , None; **J.B. Prus**, None; **C.L. Duvauchelle**, None.

Support: NIH grant DA14640
University of Texas Faculty Research Grant to C.L.D.