EFFECTS OF SEROTONIN (5-HT)_{1B} RECEPTOR LIGANDS ON AMPHETAMINE-SEEKING BEHAVIOR IN RATS

Joanna Miszkiel, Edmund Przegaliński
Laboratory of Drug Addiction Pharmacology, Department of Pharmacology, Institute of Pharmacology, Polish Academy of Sciences, ul. Smętna 12, 31-343 Kraków, Poland

INTRODUCTION
It is well-established that the reinforcing effects produced by psychostimulant drugs are dependent on their ability to increase dopamine concentrations in mesocorticolimbic system. However, the important role of the serotonergic system, especially the 5-HT_{1B} receptor subtype, in modulating the dopamine-dependent behavioral responses cannot be omitted [Miszkiel et al. 2011]. In contrast to cocaine, there is still little known about involvement of those receptors in amphetamine addiction. Up to date, it was proven, that whereas tonic activation of the 5-HT_{1B} receptor was not engaged in the rewarding properties of either psychostimulant [Przegaliński et al. 2007; Miszkiel et al. 2012], the pharmacologic stimulation of those receptor enhanced the rewarding activity of cocaine [Przegaliński et al. 2007] but not amphetamine [Miszkiel et al. 2012].

AIM
The aim of the present study was to evaluate the role of 5-HT_{1B} receptors and their pharmacological stimulation on the reinstatement of extinguished seeking behavior induced by amphetamine or amphetamine-associated cue. To achieve that we employed the extinction/reinstatement model in intravenous self-administration in rats and the 5-HT_{1B} receptor agonist (CP 94253) and antagonists (SB 216641).

METHODS

**AQUISITION AND MAINTENANCE OF THE AMPHETAMINE SELF-ADMINISTRATION**
- **Amphetamine-induced reinstatement**
  - Extinction
  - Maintenance of amphetamine self-administration

**EXTINCTION REINSTATEMENT OF AMPHETAMINE SEEKING BEHAVIOR**
- Extinction
- Amphetamine-or cue-induced reinstatement

**REFERENCES**

**CONCLUSIONS**
Our findings indicate that 5HT_{1B} receptors antagonists may be considered as a potential therapeutic strategy for amphetamine dependence, particularly preventing amphetamine craving.