

# Involvement of 5-HT<sub>1A</sub> Receptor in Marble-Burying Behavior as an Animal Model of Obsessive-Compulsive Disorder

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**Abstract :** In the present study, we examined the involvement of serotonin (5-hydroxytryptamine, 5-HT) 5-HT<sub>1A</sub> receptor in marble-burying behavior, which has been considered to be an animal model of obsessive-compulsive disorder (OCD). 8-OH-DPAT, a full 5-HT<sub>1A</sub> receptor agonist, inhibited marble-burying behavior without affecting the locomotor activity at a dose of 3 mg/kg (i.p.). Buspirone, a partial 5-HT<sub>1A</sub> receptor agonist, tended to inhibit the marble-burying behavior at a dose of 60 mg/kg (p.o.). Moreover, the inhibition of marble-burying behavior by 8-OH-DPAT was antagonized by WAY-100635 (3 mg/kg, i.p.) or WAY-100135 (10 mg/kg, i.p.), 5-HT<sub>1A</sub> receptor antagonists. These findings suggest that 5-HT<sub>1A</sub> receptor may therefore play an important role in marble-burying behavior.

**Key words :** Marble-burying behavior, Obsessive-compulsive disorder, 5-HT<sub>1A</sub> receptor, 8-OH-DPAT