Pharmacological Reports
2011, 63, 79–85
ISSN 1734-1140

Acquisition and expression of ethanol-induced conditioned place preference in mice is inhibited by naloxone

Małgorzata Wróbel

Department of Behavioral Neuroscience and Drug Development, Institute of Pharmacology, Polish Academy of Sciences, Smętna 12, PL 31-343 Kraków, Poland

Correspondence: Małgorzata Wróbel, e-mail: widla@if-pan.krakow.pl

Abstract:
The effects of opioid antagonists on conditioned reward produced by ethanol provide variable and sometimes conflicting results, especially in mice. In the present set of experiments, male C57BL/6 mice received 4 vehicle and 4 ethanol conditionings, and the rewarding effects of ethanol were assessed in an unbiased version of the conditioned place preference (CPP) apparatus and an unbiased stimulus assignment procedure. Intraperitoneal (*ip*) administration of ethanol (2 g/kg, but not 1 g/kg) resulted in the conditioned reward when conditionings lasted for 6 min but not when conditioning lasted for 20 min. Administration of the non-selective opioid receptor antagonist naloxone (1 and 5 mg/kg) before the conditionings attenuated the acquisition of ethanol-induced place preference. Naloxone (1 mg/kg) also inhibited expression of the CPP response, but it did not alter the preference of vehicle-conditioned mice, suggesting the lack of its own motivational effects in this experimental setting. Taken together, the present results suggest that an unbiased version of ethanol-induced CPP in C57BL/6 mice could be a valid model for the study of the motivational effects of ethanol, confirming and expanding previous findings that have demonstrated inhibitory effects of opioid receptor antagonist on alcohol conditioned reward.

Key words:
ethanol, conditioned reward, opioid receptor antagonist, naloxone