

# SELECTED LINES OF RATS WHP AND WLP: BEHAVIORAL AND NEUROCHEMICAL CHARACTERISTIC

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## ABSTRACT

Alcoholism as a disease reveals loss of control alcohol drinking, craving, psychical and physical dependence. Preclinic assessment of alcoholism treatment efficacy is making by the use animal models. In the Department of Pharmacology of the Institute Psychiatry and Neurology were genetically selected Warsaw High Preferring (WHP) and Warsaw Low Preferring (WLP) lines of rats. WHP are characterized by high ethanol consumption (over 5g/kg/24h), while WLP – by low one (below 2g/kg/24h). Both lines have shown behavioral and neurochemical differences. WHP rats intake much more of alcohol then WLP rats during the nocturnal hours but blood ethanol level is almost the same in spite of significant differences of drinking during the day. WHP rats intake much more sweet substances as the 5, 10, 30% solution of sucrose or 0.1% saccharine in comparison to WLP rats. It was shown, that phenotypes excessive (WHP line) and smallest (WLP line) intake of ethanol have been fixed in the 23-24 generation. There is significant correlation between amount of ethanol drinking by the WHP and WLP rats and magnitude of binding (H)muscimole in cingulated cortex. No such correlation in ethanol-naive rats. The concentration of dopamine (DA) and its metabolites (DOPAC, HVA) was significantly decreased in the striatum of WHP rats in comparison with WLP rats. In addition, after treatment parenteral 0.5 g/kg of ethanol WHP rats have shown locomotor activity. Injection per os 1.0; 2.5; 5.0 mg/kg naltrexone decreased dose-related intake of ethanol in the WHP rats.

**Key words:** rats WHP, rats WLP, ethanol, preference to ethanol.