

The Effect of Rhodiola Product on the Serotoninerbic Processes in the Central Nervous System

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Abstract:

Rhodiola rosea products have psychostimulating, antidepressive, tranquilizing effects and increase the organism resistance to unfavorable factors of various origin.

The effect of Salidroside and Rhodosine on serotonin (5-OT) content in the whole brain of mice and 8 brain structures (new cortex, caudate nucleus, amygdala, hippocampus, hypothalamus, thalamus, mesencephalon, metencephalon) of rabbits, on monoamine oxidase (MAO) and 5-OTP-decarboxylase activity and intensity of 5-oxytryptophane (5-OTP) hyperkinesia and reserpine ptosis was studied.

30 min after its subcutaneous injection Salidroside (30 and 100 mg/kg) decreased 5-OT content in the brain of intact mice by 15-23% and had no effect on MAO and 5-OTP-decarboxylase activity. The product intensified 5-OTP hyperkinesia in mice and increased the 5-OT elevation in the brain induced by the administration of a preceding product. Injected 30 min before Rausedyl (1 mg/kg subcutaneously), Salidroside (10 and 30 mg/kg decreased the intensity of ptosis. Rhodosine (1 ml/kg i.v.) with its adaptogenic and synchronizing effect on the spontaneous bioelectric cerebral activity decreased 5-OT concentration in the amygdala by 33%, increased this amine content by 72% in the hypothalamus and by 21% in the metencephalon of rabbits. Changes in 5-OT content under Rhodosine effect were revealed in those brain structures where this amine regulated sleep and wakefulness processes, emotional-affective behavior, stress reactions. It was assumed that the revealed changes in 5-OT concentration in limbico-diencephalo-stem structures of the brain were very important for the realization of antidepressive, tranquilizing effects of the Golden Root products and their ability to increase the organism non-specific resistance.