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CHANGES OF GAT_1 (GABA TRANSPORTER) LEVELS IN THE VENTRAL SUBNUCLEUS OF THE *NUCLEUS TRACTUS SOLITARIUS* AS A RESULT OF PRENATAL SEROTONIN DEFICIENCY IN RATS

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The level of GAT_1, a GABA transporter, was studied in the ventral subnucleus of the *nucleus tractus solitarius* (nTS) of rats at different periods of the early postnatal period of development in normal conditions and with serotonin deficiency in the prenatal period. A gradual significant increase in the level of GAT_1, which starts from the early neo-

natal period to the beginning of juvenile (infancy) age, is observed in the ventral subnucleus: in the processes, terminals, and synaptic structures of the neuropil. In animals that developed with serotonin deficiency, changes in GAT_1 levels were detected at different stages of the early postnatal period. During the first and second week of postnatal development, the level of GAT_1 significantly exceeds the control value, but decreases and becomes significantly lower at the end of the third developmental week. These deflections caused by serotonin deficiency in the prenatal period can lead to a change in the GABA transmission, which in turn cause an imbalance of inhibitory and excitatory effects in the respiratory subnucleus in the early postnatal period and, as a result, conduct respiratory dysfunctions.

Keywords: respiratory subnucleus, serotonin, GABA transporter 1, early postnatal period