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Effect of B1 hypovitaminosis on the efficacy of neuromuscular transmission in the murine diaphragm

* [A. V. Romanenko](https://link.springer.com/article/10.1007/s11062-007-0059-9#auth-A__V_-Romanenko-Aff1) & [S. E. Shepelev](https://link.springer.com/article/10.1007/s11062-007-0059-9#auth-S__E_-Shepelev-Aff1)

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Abstract

In mice kept on a diet with no vitamin B1, the total content of thiamine in the brain decreased, and muscle contractions evoked by stimulation of the nerve in phrenico-diaphragmatic preparations obtained from such animals became weaker. The measurements were performed in Krebs solution with a decreased content of Ca2+ and increased concentration of Mg2+; values of the developed force were normalized with respect to those in normal Krebs solution. Thus, B1 hypovitaminosis results in a decrease in the efficacy of neuromuscular synaptic transmission. Some neurological symptoms typical of a deficiency of vitamin B1 in the organism can be related to this effect.

Author information

Authors and Affiliations

1. **Ministry of Public Health of Ukraine, Bogomolets National Medical University, Kyiv, Ukraine**

A. V. Romanenko & S. E. Shepelev

Corresponding author

Correspondence to A. V. Romanenko.

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Keywords

* **thiamine**
* **deficiency of vitamin B1**
* **neuromuscular synaptic transmission**

