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MODULATION OF GABA_A RECEPTORS BY NEUROSTEROIDS. A NEW CONCEPT TO IMPROVE COGNITIVE AND MOTOR ALTERATIONS IN HEPATIC ENCEPHALOPATHY

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Graphical abstract

Model proposed to explain (A) how increased GABAergic tone leads to reduced function of the glutamate-NO-cGMP pathway and formation of cGMP in cerebellum, and (B) how GABA_A receptor-directed therapeutics would restore the glutamate-NO-cGMP pathway and formation of cGMP. (A) Increased GABAergic tone would induce a mild hyperpolarization, increasing the voltage-dependent block of the NMDA receptor by Mg²⁺, which would contribute to reducing the activation of the pathway and cGMP formation. **(B)** Reducing activation of GABA_A receptors by any means would reduce hyperpolarization and voltage-dependent block of NMDA receptor, contributing to restore the pathway and cGMP levels.

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