

Mechanisms of modafinil: A review of current research

[Paul Gerrard¹](#) and [Robert Malcolm²](#)

What are neuropeptides?

[Burbach JP¹](#).

[Author information](#)

¹Rudolf Magnus Institute of Neuroscience, Department of Neuroscience and Pharmacology, University Medical Center Utrecht, Utrecht, The Netherlands. j.p.h.burbach@umcutrecht.nl

Effects of Modafinil on Dopamine and Dopamine Transporters in the Male Human Brain: Clinical Implications

[Nora D. Volkow, MD](#), [Joanna S. Fowler, PhD](#), [Jean Logan, PhD](#), [David Alexoff, BSE](#), [Wei Zhu, PhD](#), [Frank Telang, MD](#), [Gene-Jack Wang, MD](#), [Millard Jayne, RN](#), [Jacob M. Hooker, PhD](#), [Christopher Wong, BA](#), [Barbara Hubbard, RN](#), [Pauline Carter, RN](#), [Donald Warner, AA](#), [Payton King, BA](#), [Colleen Shea, MS](#), [Youwen Xu, MS](#), [Lisa Muench, BA](#), and [Karen Apelskog-Torres, AA](#)

The antinarcotic drug modafinil increases glutamate release in thalamic areas and hippocampus.

[Ferraro L¹](#), [Antonelli T](#), [O'Connor WT](#), [Tanganelli S](#), [Rambert F](#), [Fuxe K](#).

[Author information](#)

- ¹Department of Experimental and Clinical Medicine, University of Ferrara, Italy.

Modafinil enhances thalamocortical activity by increasing neuronal electrotonic coupling

[Francisco J. Urbano,](#) [Elena Leznik,](#)[†] and [Rodolfo R. Llinás](#)[‡]

Metabolic response of the cerebral cortex following gentle sleep deprivation and modafinil administration.

[Petit JM¹](#), [Tobler I](#), [Kopp C](#), [Morgenthaler F](#), [Borbély AA](#), [Magistretti PJ](#).

Author information

- ¹Laboratory of Neuroenergetic and Cellular Dynamics, Brain Mind Institute, Life Science Faculty, EPFL, Lausanne, Switzerland. jean-marie.petit@epfl.ch

Effects of Modafinil on Behavioral Learning and Hippocampal Synaptic Transmission in Rats

Wen-Wen Yan,^{1*} Li-Hua Yao,^{2*} Chong Chen,² Hai-Xia Wang,³ Chu-Hua Li,¹ Jun-Ni Huang,¹ Peng Xiao,¹ and Cheng-Yi Liu³

The vigilance promoting drug modafinil decreases GABA release in the medial preoptic area and in the posterior hypothalamus of the awake rat: possible involvement of the serotonergic 5-HT₃ receptor.

Ferraro L¹, Tanganelli S, O'Connor WT, Antonelli T, Rambert F, Fuxe K.

Author information

- ¹Institute of Pharmacology, University of Ferrara, Italy.

The vigilance promoting drug modafinil modulates serotonin transmission in the rat prefrontal cortex and dorsal raphe nucleus. Possible relevance for its postulated antidepressant activity.

Ferraro L¹, Antonelli T, Beggiato S, Cristina Tomasini M, Fuxe K, Tanganelli S.

Author information

- ¹Department of Clinical and Experimental Medicine, Pharmacology Section, Via Fossato di Mortara 17- 19, 44100, Ferrara, Italy. fri@unife.it

Metabolic Response of the Cerebral Cortex Following Gentle Sleep Deprivation and Modafinil Administration

Jean-Marie Petit, PhD,¹ Irene Tobler, PhD,² Caroline Kopp, PhD,² Florence Morgenthaler, PhD,³ Alexander A. Borbély, MD,² and Pierre J. Magistretti, MD, PhD¹

