Title
Hot Topics

Permalink
https://escholarship.org/uc/item/3j7956p6

Journal
Neuropsychopharmacology, 33(1)

ISSN
0893-133X

Author
Piomelli, Daniele

Publication Date
2008

DOI
10.1038/sj.npp.1301608

License
https://creativecommons.org/licenses/by/4.0/ 4.0

Peer reviewed
as other possible factors capable of modulating the impact of sensitization on behavior.

Paul Vezina
Department of Psychiatry, University of Chicago, Chicago, IL 60637, USA.
E-mail: pvezina@yoda.bsd.uchicago.edu

DISCLOSURE/CONFLICT OF INTEREST
This work was supported by a grant (DA09097) from the National Institutes of Health to PV. The author declares that, except for this grant and income received from his primary employer, no financial support or compensation has been received from any individual or corporate entity over the past 3 years for research or professional service and there are no personal financial holdings that could be perceived as constituting a potential conflict of interest.


The proposed role of the endocannabinoids in the control of pain and emotion has both theoretical and clinical interest and it could be exploited to develop novel anagelics, antidepressant-like drugs and modulators of the rewarding actions (Gobbi et al, 2005). The proposed role of the endocannabinoids in the control of pain and emotion has both theoretical and clinical interest and it could be exploited to develop novel anagelics, antidepressant-like drugs and modulators of the rewarding actions (Gobbi et al, 2005).

The endocannabinoids are thought to operate primarily as paracrine mediators—substances that are generated on demand by neurons and other cells in response to physiological stimuli and act in the vicinity of their sites of synthesis (Piomelli, 2003).

In brain, the endocannabinoids may mediate localized signaling mechanisms through which neurons modify the strength of incoming synaptic inputs. For example, evidence indicates that 2-AG is generated in the hippocampus by activation of postsynaptic metabotropic glutamate receptor blockade, but are not associated with overt psychototropic or rewarding actions (Gobbi et al, 2005). FAAH inhibitors have recently entered clinical trials, and data regarding their efficacy in patients should become available in the next few years. Discovery efforts targeting other endocannabinoid-deactivating pathways are also underway.

Daniele Piomelli
Department of Pharmacology, University of California, Irvine, CA 92697, USA. E-mail: piomelli@uci.edu

DISCLOSURE/CONFLICT OF INTEREST
The author was a co-founder of and consultant for Kadmus Pharmaceuticals Inc., which partially funded research in the author’s lab.


Modulating endogenous cannabinoids to treat pain and affective disorders

The endocannabinoids are a family of biologically active lipids that activate cannabinoid (CB) receptors, the G protein-coupled receptors targeted by Δ9-tetrahydrocannabinol (Δ9-THC) in marijuana. The term encompasses several derivatives of the polyunsaturated fatty acid arachidonic acid, including anandamide (arachidonoylthanolamide), and 2-arachidonoylglycerol (2-AG). The endocannabinoids are thought to operate primarily as paracrine mediators—substances that are generated on demand by neurons and other cells in response to physiological stimuli and act in the vicinity of their sites of synthesis (Piomelli, 2003).

In brain, the endocannabinoids may mediate localized signaling mechanisms through which neurons modify the strength of incoming synaptic inputs. For example, evidence indicates that 2-AG is generated in the hippocampus by activation of postsynaptic metabotropic glutamate receptor blockade, but are not associated with overt psychototropic or rewarding actions (Gobbi et al, 2005). FAAH inhibitors have recently entered clinical trials, and data regarding their efficacy in patients should become available in the next few years. Discovery efforts targeting other endocannabinoid-deactivating pathways are also underway.

Daniele Piomelli
Department of Pharmacology, University of California, Irvine, CA 92697, USA. E-mail: piomelli@uci.edu

DISCLOSURE/CONFLICT OF INTEREST
The author was a co-founder of and consultant for Kadmus Pharmaceuticals Inc., which partially funded research in the author’s lab.


