Dynorphin Encyclopedia Article

Dynorphin

The following sections of this BookRags Literature Study Guide is offprint from Gale's For Students Series: Presenting Analysis, Context, and Criticism on Commonly Studied Works: Introduction, Author Biography, Plot Summary, Characters, Themes, Style, Historical Context, Critical Overview, Criticism and Critical Essays, Media Adaptations, Topics for Further Study, Compare & Contrast, What Do I Read Next?, For Further Study, and Sources.

(c)1998-2002; (c)2002 by Gale. Gale is an imprint of The Gale Group, Inc., a division of Thomson Learning, Inc. Gale and Design and Thomson Learning are trademarks used herein under license.

The following sections, if they exist, are offprint from Beacham's Encyclopedia of Popular Fiction: "Social Concerns", "Thematic Overview", "Techniques", "Literary Precedents", "Key Questions", "Related Titles", "Adaptations", "Related Web Sites". (c)1994-2005, by Walton Beacham.

The following sections, if they exist, are offprint from Beacham's Guide to Literature for Young Adults: "About the Author", "Overview", "Setting", "Literary Qualities", "Social Sensitivity", "Topics for Discussion", "Ideas for Reports and Papers". (c)1994-2005, by Walton Beacham.

All other sections in this Literature Study Guide are owned and copyrighted by BookRags, Inc.

Contents

Dynorphin Encyclopedia Article.....1

Contents.....2

Dynorphin.....3

Dynorphin

Dynorphin is a neuropeptide transmitter; it is an OPIOID peptide, a member of the endorphin family of peptides. All neurotransmitters like Dynorphin have receptors. Its greatest affinity is for the Kappa opioid receptor. Dynorphin's role in drug abuse was originally anticipated based on its location in anatomical areas strongly associated with the mechanism of action of drugs of abuse. It is localized in the NUCLEUS ACCUMBENS, AMYGDALA, and VENTRAL TEGMENTAL AREA.

Dynorphin induces feelings of dysphoria, or despair. This was first documented in animals, and later confirmed in humans. It is surprising because the best known opiate-like drugs are morphine and heroin, and they present great abuse liability since they illicit feelings of euphoria and absence of pain. However, there seem to be two opioid systems controlling behavior one influencing feelings of RE-WARD (through-endorphins) and one influencing feelings of AVERSION, (through dynorphin). The physiological substrate underlying the effects of dynorphins is believed to be at the level of the MESOLIMBIC DOPAMINE neurons in the ventral teg-mental area. Dynorphin tonically inhibits the firing of dopamine neurons, thus preventing its release in the striatum. Elevations of dopamine levels in the nucleus accumbens are believed to underlie the reinforcing properties of many PSYCHOSTIMULANT-like drugs, as well as OPIATES.

Due to the ADVERSE feeling associated with WITHDRAWAL from many drugs of abuse, the dynorphin system has been implicated in contributing to this state. Studies have found that there are long-term changes in dynorphin levels in brain areas associated with drug abuse, and that these changes also exist during withdrawal. Prenatal exposure to cocaine also effects the levels of dynorphin in the brain. These changes are present in both animal and human models of drug abuse. Since drugs modulate dynorphin systems, we can gain an understanding of how drugs work in the brain by studying the dynorphin system.