

xPharm

A Pharmacological Reference Work for Life Scientists

Chulalongkorn University, Thailand

Presented by: Doreen Tan
Title: Product Sales Manager, Life Sciences
Date: 01 Sep 2005



The new authoritative reference work for
Medicinal Pharmacology and Life Science



- 2300 [Agents](#)
- 600 [Targets](#)
- 450 [Disorders](#)
- 180 [Principles](#)

>500 expert editors around the world
continuously contribute to populating and
updating database

- Demand for
 - High quality and focused information
 - provided in an usable language
 - though an easily accessed resource,
 - organized in a simple, well thought through manner,
 - stored in highly functional repository
 - and connected to deep supporting material.

- All content has been created by world leading authorities in pharmacology
- Executive Editors
 - Sam J. Enna
 - [David B. Bylund](#)
- Associate Editors
 - Hanns Mohler (Targets)
 - Gary O. Rankin and Israel Hanin (Agents)
 - Frank J. Dowd (Disorders)
 - Lynn Wecker (Principles)

Editors and contributors



[David Bylund](#) Ph.D.: current president of the American Society for Pharmacology and Experimental Therapeutics (ASPET); Chair of Pharmacology at University of Nebraska Medical Center, Omaha; listed by ISI as one of the world's most highly cited scientists

S.J. Enna Ph.D.: past president of ASPET, Professor of Pharmacology, University of Kansas Medical Center, Kansas City; Executive Editor-in-Chief of scholarly journals: "Pharmacology & Therapeutics" and "Biochemical Pharmacology"

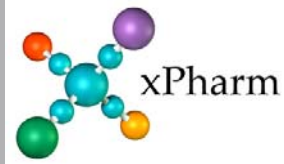
Hanns Mohler, Ph.D. Director of the Institution of Pharmacology and Toxicology, Swiss Federal Institute of Technology, U. Zurich. Member of the European Academy of Sciences; previously Vice Director of research at Hoffman-LaRoche. Winner of multiple scientific awards in neuroscience. Listed by ISI as one of the world's most highly cited scientists

Roderick Flower, Ph.D. Director of the William Harvey Research Institute, London; President of the British Pharmacological Society

Joseph Beavo, Ph.D. University of Washington, Seattle; Member of the prestigious National Academy of Sciences



Target End-users



- Pharmacologists
- Geneticists
- Molecular Biologists
- Biochemists
- Cell Biologists/Neuroscientists
- Immunologists
- Physiologists/Toxicologists
- Toxicologists
- Medicinal Chemists



- Authored by top scientists currently working in the field
- Records are written solely for xPharm by researchers
 - >500 contributors
 - Representing over 20 nations
 - Working in academic, government, and corporate institutions.
 - Data updated constantly by the primary researchers

“The drug research paradigm has moved from a compound looking for an effect to targets looking for a compound”

Dr. Jurgen Drews, *Modern Drug Discovery*, April 2004

- xPharm displays more detailed information about pharmacologically relevant targets
 - Classification, alternate names
 - Structural information for humans and all relevant animal models
 - Control of expression, protein partners, physiological role
 - Disease associations
 - Pharmacological regulation
 - This information is not available in any other single source

Detailed



The screenshot shows a web browser window with the title "Pharmacological Regulation". The main content area is titled "D3 Dopamine Receptor" and includes a navigation sidebar on the left. The sidebar contains sections for "Introduction", "Nomenclature", "Target Structure", and "Protein". The main content area is divided into several sections: "Pharmacological Regulation", "Agonist / Activator / Substrate", "Mutant Targets", "Assays", "Disorders", and "Other Information".

Pharmacological Regulation

As noted above, the binding of agonists to the D3 receptor is not regulated by guanine nucleotides. For the binding affinities of additional ligands at the D3 dopamine receptor, other than those given below visit <http://kidd.bioc.cwru.edu/pdsp.php> and search on "dopamine D3".

Agonist / Activator / Substrate

Introduction

The D3 dopamine receptor is a member of the superfamily of G-protein-coupled receptors. It is widely distributed in the brain and is thought to be involved in the regulation of dopamine release and uptake. It is also thought to be involved in the regulation of dopamine receptor expression and function.

Nomenclature

Superfamily

Family

Type

Subtypes

Classification Number

Alternative Names

Comments

Target Structure

Protein

The D3 dopamine receptor is a member of the superfamily of G-protein-coupled receptors. It is widely distributed in the brain and is thought to be involved in the regulation of dopamine release and uptake. It is also thought to be involved in the regulation of dopamine receptor expression and function.

Mutant Targets

The tGRAP mutant receptor database (<http://tgrap.uit.no/queryform10.html>) lists a number of mutants of the D3 dopamine receptor.

Assays

Molecular / Cellular	Reliable in vitro biochemical assays of D3 receptor function have been difficult to develop. As noted above, the D3 receptor is not robustly coupled to the inhibition of cyclic AMP accumulation unless expressed in a cell that either endogenously expresses, or has been transfected with type V adenylate cyclase Robinson and Caron (1997) . Enhancement of [³⁵ S]GTP-gamma-S binding to membrane preparations can be employed to assess G protein-coupling. Cellular-based assays have included induction of mitogenesis and c-fos production, although these responses are downstream of initial second messenger generation. Electrophysiological methods that involve assessment of potassium or calcium channel activity in cells or tissue slice preparations can also be employed.
Genetically Engineered Organisms	D3 receptor knockout mice have been produced by three separate groups, reviewed in Sibley (1999) Glickstein and Schmauss (2001) . In some cases, the D3 receptor-deficient mice have been crossed with other dopamine receptor-deficient mice, such as the D2 knockout mouse, to create mice lacking multiple dopamine receptors.

Disorders

Like the D2 receptor, the D3 receptor exhibits high affinity for most antipsychotic drugs suggesting that it may be involved in psychotic disorders. However, numerous neuropathological and genetic studies have failed to provide a conclusive association between D3 receptors and schizophrenia. Nonetheless, blockade of the D3 receptor may contribute to the efficacy of some antipsychotic drugs, reviewed in [Schwartz et al \(2000\)](#).

Other Information

Web Sites:

<http://www.biotrend.com/pdf/dopa.pdf>

Molecule page of the Alliance for Cellular Signaling. PID for the dopamine D3 receptor is A000782: <http://www.afcs.org/>



- Information on Disorders is organized for bench scientists to aid grant applications and business proposals
 - Classifications according to WHO and CDC where appropriate
 - Epidemiology: who gets the disease, the size of this population.
 - Consequences, pathophysiology: what happens if the disease is not treated
 - Standard and experimental therapies: what is known about pharmacological intervention and the mechanisms of therapeutics
 - Animal models: for basic study and toxicological tests
 - Sources of funding

- More pharmacology content than any other online product
- More current and extensive than a print reference work
- Complementary database to bioactivity, drug pipeline and biomedical databases
- External links to:
 - Genetic database
 - Protein database
 - Literature
 - Vendors and funding sources

Extensive & Comprehensive



Protein Sequence Information

Number or

ScienceDirect - Molecular Brain Research : CLIC6, a member of the intracellular chloride ch...

STARWOOD.com

Address: http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T07-49800XR-1&_coverDate=09%2F10%2F

Google

SCIENCE @ DIRECT

Register or Login: user name Password: Go

Home Search Journals Books Abstract Databases My Pr

Quick Search: within All Full-text Sources

Molecular Brain Research
Volume 117, Issue 1, 10 September 2003, Pages 47-57

doi:10.1016/S0169-328X(03)00283-3 Cite or Link Using DOI
Copyright © 2003 Elsevier B.V. All rights reserved.

Research report

CLIC6, a member of the intracellular chloride channel family, interacts with dopamine D₂-like receptors

Nathalie Griffon^a, Freddy Jeanneteau^a, Fanny Prieur^a, Jorge

^a Unité de Neurobiologie et Pharmacologie Moléculaire, INSERM U-573, Centre Paul Broca, 2ter Rue d'Alésia, 75014, Paris, France

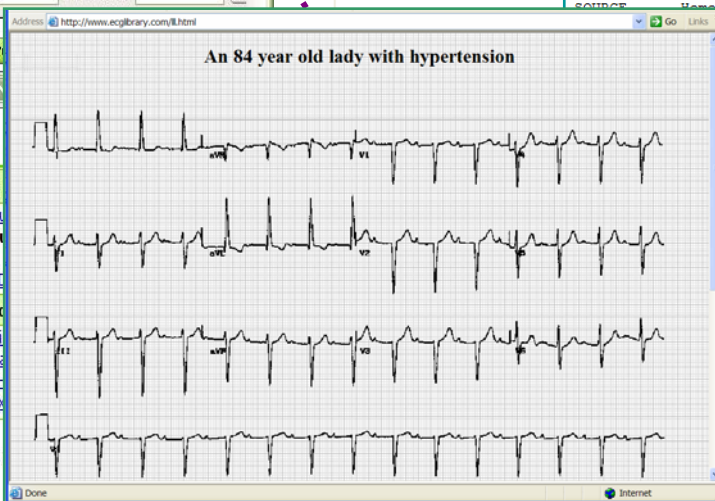
^b Laboratoire de Physiologie, Université René Descartes, 4 Avenue de l'Observatoire, 75006, Paris, France

Accepted 25 June 2003. ; Available online 8 August 2003.

SwissProt Accession #

P19020

There are 8 exons in the
<http://www.ensembl.org>
There are 8 exons in the
<http://www.ensembl.org>
<http://www.expasy.org>



00290

NCBI Nucleotide

Search Nucleotide for NM_033659

Display GenBank Send all to file

Range: from begin to end Reverse complemented strand Features: SNP

1: NM_033659. Reports Homo sapiens dopa...[gi:16445397]

LOCUS NM_033659 1353 bp mRNA linear PRI 11-JUN-2005
DEFINITION Homo sapiens dopamine receptor D3 (DRD3), transcript variant c, mRNA.
ACCESSION NM_033659
VERSION NM_033659.1 GI:16445397
KEYWORDS

Map Search ExPASy Contact us Swiss-Prot

MBL for Go Clear

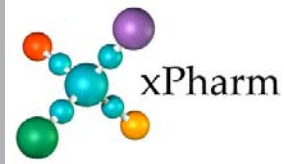
Printer-friendly view Submit update Quick BlastP search

[Comments] [Cross-references] [Keywords] [Features] [Sequence] [Tools]

Protein name D(3) dopamine receptor
Synonyms None
Gene name Name: DRD3
From Homo sapiens (Human) [TaxID: 9606]
Taxonomy Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Homnidae; Homo.

References
[1] NUCLEOTIDE SEQUENCE (D3).
PubMed=2129115 [NCBI, ExPASy, EBI, Israel, Japan]
Giros B., Martres M.-P., Sokoloff P., Schwartz J.-C.;
"Gene cloning of human dopaminergic D3 receptor and identification of its chromosome.";
C. R. Acad. Sci. III, Sci. Vie 311:501-508(1990).
[2] NUCLEOTIDE SEQUENCE (D3).
Fishburn C.S., Park B.-H., Fuchs S ;
Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.

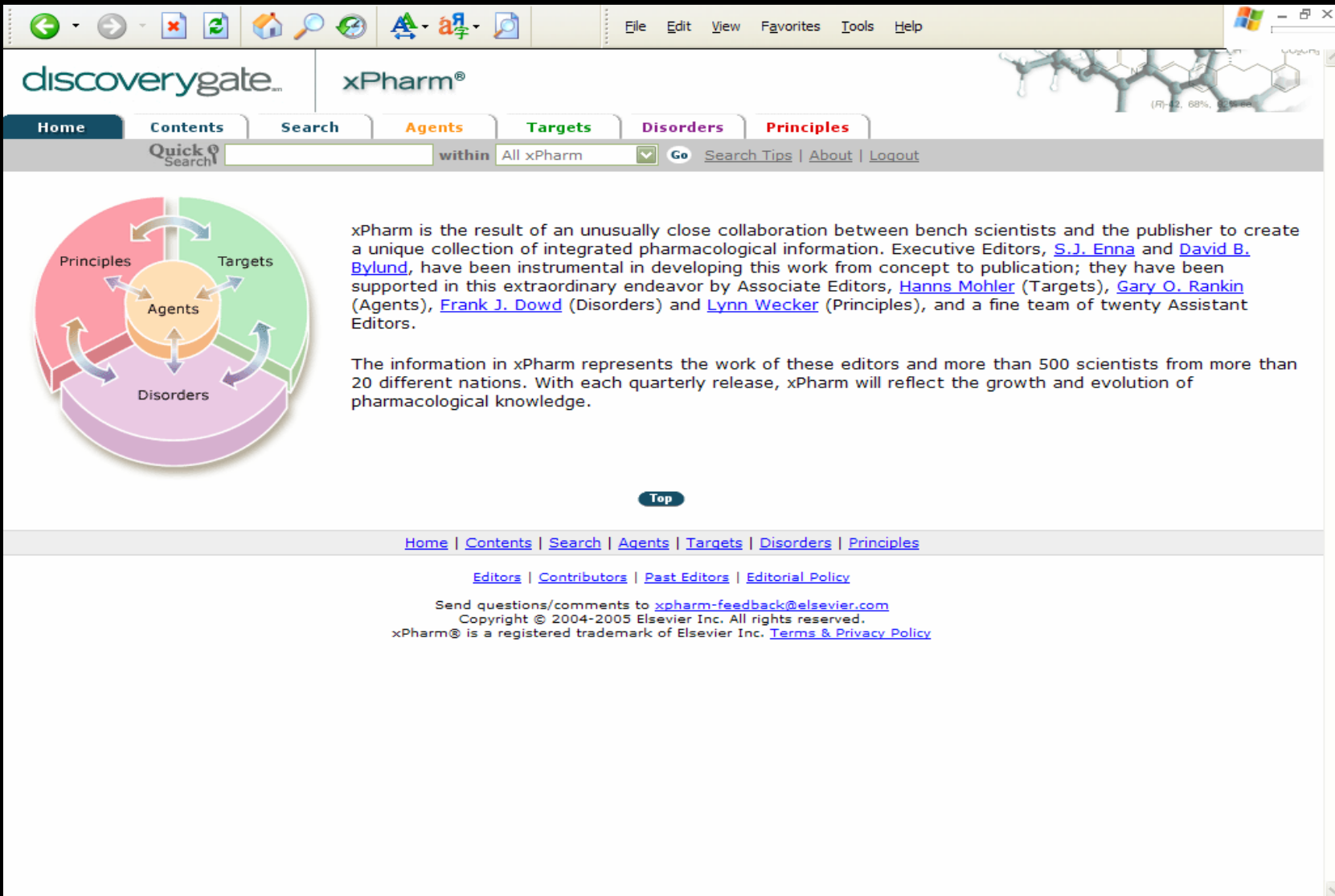
A Growing Resource



- Existing records are updated quarterly
- Breaking news can be added immediately
- New records added continuously
 - Subject to editorial approval




- Home Page access easy for non specialists. “Browsing of the table of Table of Contents was easy to use” – User
- Support for basic and advanced queries
- Answers pharmacology questions with focused results. (not found in journal articles, e.g. those on PubMed, or in current database offerings)
- Discover common pharmacological elements from disparate records.



discoverygate.com xPharm®

Home Contents Search Agents Targets Disorders Principles

Quick Search within All xPharm Go Search Tips | About | Logout



xPharm is the result of an unusually close collaboration between bench scientists and the publisher to create a unique collection of integrated pharmacological information. Executive Editors, [S.J. Enna](#) and [David B. Bylund](#), have been instrumental in developing this work from concept to publication; they have been supported in this extraordinary endeavor by Associate Editors, [Hanns Mohler](#) (Targets), [Gary O. Rankin](#) (Agents), [Frank J. Dowd](#) (Disorders) and [Lynn Wecker](#) (Principles), and a fine team of twenty Assistant Editors.

The information in xPharm represents the work of these editors and more than 500 scientists from more than 20 different nations. With each quarterly release, xPharm will reflect the growth and evolution of pharmacological knowledge.

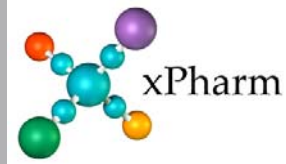
[Top](#)

[Home](#) | [Contents](#) | [Search](#) | [Agents](#) | [Targets](#) | [Disorders](#) | [Principles](#)

[Editors](#) | [Contributors](#) | [Past Editors](#) | [Editorial Policy](#)

Send questions/comments to xpharm-feedback@elsevier.com
Copyright © 2004-2005 Elsevier Inc. All rights reserved.
xPharm® is a registered trademark of Elsevier Inc. [Terms & Privacy Policy](#)

Easy to browse ToC



discoverygate_{sm} xPharm[®]

Home Contents Search Agents Targets Disorders Principles

Quick Search within All xPharm Go Search Tips | About | Logout

xPharm Contents

- Agents
 - Agent Classes by Target
 - Agents Targeting Receptors
 - Agents Targeting Ion Channels
 - Agents Targeting Transporters
 - Agents Targeting Enzymes
 - Ectonucleotidase Inhibitors
 - Oxidoreductase Agents
 - Transferase Agents
 - Agents Targeting Hydrolases
 - Isomerase Agents
 - DNA-Interacting Agents
 - Intercalating Agents
 - Alkylating Agents
 - Platinum Derivatives
 - Spindle Poisons
 - Docetaxel
 - Paclitaxel
 - Vinblastine
 - Vincristine
 - Vinorelbine
 - Lipid Interacting Agents
 - Agents Targeting Proton Pumps
 - Agents by Therapeutic Use
 - Targets
 - Disorders
 - Principles

Paclitaxel

[Kenneth D. Tew](#)

Click [here](#) to cite this article.

Introduction

Paclitaxel, also known as taxol, is a taxane natural product initially extracted from the pacific yew tree, *Taxus baccata*. An antimicrotubule agent, it differs from drugs that induce [microtubule](#) disassembly, such as the vinca alkaloids, in that paclitaxel promotes the assembly of microtubules from tubulin dimmers, stabilizes microtubules by preventing depolymerization, and interferes with tubulin cycling [Manfredi and Horwitz \(1984\)](#) [Manfredi et al \(1982\)](#) [Hamel et al \(1981\)](#) [Schiff et al \(1979\)](#). Microtubules remain stable in the presence of paclitaxel even following conditions normally promoting disassembly [Rowinsky et al \(1990\)](#) [Schiff et al \(1979\)](#). This stability results in inhibition of the normal dynamic reorganization of the microtubule network that is required for interphase and mitotic cellular functions [Rowinsky et al \(1990\)](#).

Nomenclature

Name of the Clinical Form	Paclitaxel
Synonyms	Paclitaxel; Taxol; anzatax; bms 181339; genexol; hunxol; intaxel; nsc 125973; paxene; yewtaxan; taxol
Chemical Names	(2S,5R,7S,10R,13S)-10,20-Bis(acetoxy)-2-benzoyloxy-1,7-dihydroxy-9-oxo-5,20-epoxytax-11-en-13-yl

Simply point and click to drill to details.

Search all of xPharm



discoverygate.com xPharm®

Home Contents Search Agents Targets Disorders Principles

Quick Search within All xPharm Go Search Tips | About | Logout

Select a search form: **All xPharm** | [Agents](#) | [Targets](#) | [Disorders](#) | [Principles](#)

Search within All xPharm

Search for: Search

AND

AND

AND

Search Within: Agents Targets Disorders Principles

Top

[Home](#) | [Contents](#) | [Search](#) | [Agents](#) | [Targets](#) | [Disorders](#) | [Principles](#)

[Editors](#) | [Contributors](#) | [Past Editors](#) | [Editorial Policy](#)

Send questions/comments to xpharm-feedback@elsevier.com
Copyright © 2004-2005 Elsevier Inc. All rights reserved.
xPharm® is a registered trademark of Elsevier Inc. [Terms & Privacy Policy](#)

Search in selected Field Index



The screenshot shows the xPharm search interface. At the top, there are navigation tabs: Home, Contents, Search, Agents (selected), Targets, Disorders, and Principles. Below the tabs is a search bar with the text "Quick Search" and a dropdown menu set to "All xPharm". A "Go" button and links for "Search Tips", "About", and "Logout" are also present.

The main content area is titled "Search within Agents". It contains a "Search Agents for:" section with three input fields, each followed by a "within" dropdown menu. The first dropdown menu is open, showing a list of field options: "- Any Field -", "- Any Field -", "Record Name", "Description", "Introduction", "Nomenclature", "Basic Chemistry", "Human Pharmacokinetics", "Targets-Pharmacodynamics", "Therapeutics", "Indications" (highlighted), "Contraindications", "Adverse Effects", "Agent-Agent Interactions", "Preclinical Research", "Other Research Information", "Other Information", "Websites", and "Further Reading".

Below the search fields is a checkbox labeled "Include Principles" and a "Display:" section with a dropdown menu set to "Record Name". A note below the display section reads: "Select a display option to customize the results. This is useful when you want to compare results across different search forms."

At the bottom of the page, there is a "Top" button, a navigation bar with links: Home | Contents | Search | Agents | Targets | Disorders | Principles, and a footer with links: Editors | Contributors | Past Editors | Editorial Policy. The footer also contains the text: "Send questions/comments to xpharm-feedback@elsevier.com. Copyright © 2004-2005 Elsevier Inc. All rights reserved. xPharm® is a registered trademark of Elsevier Inc. [Terms & Privacy Policy](#)".

xPharm

BROWSE & SEARCH EXAMPLES



ELSEVIER

Browsing for Disorder – Familial Hypercholesterolemia



The screenshot shows the xPharm website interface. The navigation menu includes Home, Contents, Search, Agents, Targets, Disorders, and Principles. The 'Contents' menu is expanded, showing a tree structure of categories. A red arrow points to 'Familial Hypercholesterolemia' under 'Blood Lipid Disorders'. The main content area displays the article title 'Familial Hypercholesterolemia' by Anna Maio, with a link to cite the article. The article text includes an introduction, definition, classification, and consequences.

discoverygate_{inc} xPharm[®]

Home Contents Search Agents Targets Disorders Principles

Quick Search within All xPharm Go Search Tips | About | Logout

xPharm Contents

- Agents
- Targets
- Disorders
 - Cardiovascular Disease
 - Blood Lipid Disorders
 - Familial Hypercholesterolemia**
 - Hypertriglyceridemia
 - Blood and Bone Marrow Disorders
 - Heart Disease
 - Vascular Disorders
 - Central Nervous System Disorders
 - Endocrine Disorders
 - Gastrointestinal Disease
 - Genetic Errors in Metabolism
 - Genitourinary Disorders
 - Immune System and Inflammatory Disor
 - Infectious Diseases
 - Musculo-Skeletal Disorders
 - Neoplastic Disorders
 - Ocular Disorders
 - Otolaryngological Disorders
 - Peripheral Nerve Disorders
 - Pulmonary Disorders
 - Renal Disorders
- Principles

Familial Hypercholesterolemia

[Anna Maio](#)

Click [here](#) to cite this article.

Introduction

Familial hypercholesterolemia is a type of primary hyperlipidemia in which serum low-density lipoprotein cholesterol (LDL-C) levels are elevated. Familial hypercholesterolemia is a monogenic, autosomal dominant disorder caused by defects in the gene that encodes for the low-density lipoprotein (LDL) receptor. This results in reduced clearance and an elevation of circulating LDL-C levels.

Definition

Familial hypercholesterolemia is defined by elevated low-density lipoprotein cholesterol (LDL-C) due to a genetic disorder. Familial hypercholesterolemia may be defined as heterozygous or homozygous. In all types of familial hypercholesterolemia, serum LDL-C is usually greater than 190 mg/dl.

Classification

In the Fredrickson-Levy-Lees classification of hyperlipoproteinemias, familial hypercholesterolemia is classified as type IIa based on the criteria that serum low-density lipoprotein cholesterol (LDL-C) is elevated usually without changes in serum levels of other lipoproteins [Fredrickson et al \(1967a\)](#) [Fredrickson et al \(1967b\)](#) [Fredrickson et al \(1967c\)](#) [Fredrickson et al \(1967d\)](#) [Fredrickson et al \(1967e\)](#) [Levy et al \(1966\)](#). Familial hypercholesterolemia can also be defined according to the pattern of genetic inheritance as heterozygous (serum LDL-C > 250 mg/dl) or homozygous (serum LDL-C > 500 mg/dl).

Consequences

The increased serum low-density lipoprotein cholesterol (LDL-C) seen in familial

Browsing for Agent - Amifostine



discoverygate_™ xPharm[®]

Home Contents Search Agents Targets Disorders Principles

Quick Search within All xPharm Go Search Tips | About | Logout

xPharm Contents

- Agents
 - Agent Classes by Target
 - Agents by Therapeutic Use
 - Analgesic Agents
 - Antibacterial Agents
 - Antifungal Agents
 - Antiinflammatory Agents
 - Antiparasitic Agents
 - Antiviral Agents
 - Cardiovascular Agents
 - Chemotherapeutic Agents
 - Alkylating Agents
 - Hormone and Antihormone
 - Intercalating Agents
 - Platinum Derivatives
 - Spindle Poisons
 - Topoisomerase Inhibitors
 - Tyrosine Kinase Inhibitors
 - Antimetabolites
 - Alemtuzumab
 - Amifostine**
 - Asparaginase
 - Azathioprine
 - Bexarotene
 - Bleomycin
 - Carminomycin
 - Elitek
 - Epothilones
 - Etanercept
 - Goserelin
 - Hydroxyurea
 - Interferon-alpha

Amifostine

[Kenneth D. Tew](#)

Click [here](#) to cite this article.

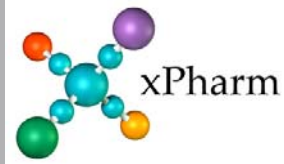
Introduction

WR-1065 is the active form of amifostine (ethylol, WR-2721), a phosphorylated aminothiols prodrug. Amifostine is thought to be dephosphorylated at the tissue site by membrane-bound alkaline phosphatase to WR-1065, which subsequently accumulates in cells. Once inside cells amifostine protects normal tissues from the toxic effects of ionizing radiation and chemotherapeutic agents while either enhancing or having no effect on their antitumor effects [Yuhas \(1977\)](#). The cytoprotective benefits of amifostine are mediated by the nucleophilicity of the thiol moiety [Hospers et al \(1999\)](#). Preferential protection of normal cells is believed to occur either because of the higher activity of membrane-bound alkaline phosphatase in normal cells, and/or because of pH differences between normal and tumor cells, which would alter alkaline phosphatase activity. There are also indications that amifostine influences tumor-specific transcription factors and oncogenes [Shen et al \(2001\)](#).

Nomenclature

Name of the Clinical Form	Ethylol
Synonyms	Amifostine; Ethiofos; Ethanethiol, 2-[(3-aminopropyl)amino]-, dihydrogen phosphate; Ethylol (trade); amifostine hydrate; 2 [(3 aminopropyl)amino] ethanethioldihydrogen phosphate; aminopropylaminoethylphosphorothioate; [2 (3aminopropylamino)ethyl]phosphorothioic acid; aminopropylaminoethylthiophosphate; aminopropylaminoethylthiophosphate; [2 (3aminopropylamino)ethyl]thiophosphoric acid; apaetf; apaetp; ethiofos; ethiophos; ethylol; gamafos; gammaphos; nsc 296961; phosphorothioic

SEARCH SCENARIO:



Example 1:

What agents give edema as a side effect?

Example 2:

What targets does Alzheimer's disease affect?



Agents with edema S/E



discoverygate... xPharm...

Home Contents Search **Agents** Targets Disorders Principles

Quick Search within All xPharm Go Search Tips | About | Logout

Select a search form: All xPharm | **Agents** | Targets | Disorders

Search within Agents

Search Agents for:

edema within Adverse Eff

AND within - Any Field -

AND within - Any Field -

Include Principles

Display: Record Name for each search

- Record Name
- Description
- Introduction
- Nomenclature
- Basic Chemistry
- Human Pharmacokinetics
- Targets-Pharmacodynamics**
- Therapeutics
- Indications
- Contraindications
- Adverse Effects
- Agent-Agent Interactions
- Preclinical Research
- Other Research Information
- Other Information
- Websites
- Further Reading

discoverygate... xPharm...

Home Contents Search **Agents** Targets Disorders Principles

Quick Search within All xPharm Go Search Tips | About | Logout

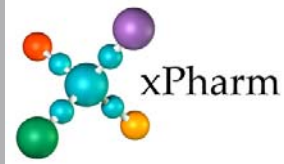
Search Results within Agents

Your Search: edema

Viewing all 92 results

- Imatinib**
Targets-Pharmacodynamics
Imatinib mesylate predominantly targets Abl tyrosine kinase and its oncogenic fusion form Bcr-Abl by competing for and inhibiting ATP binding at the active site. It also has high affinity for the ATP binding pockets of c-Kit and PDGFR tyrosine kinases.
Target Name(s):
[Abl kinase](#)
Bcr-Abl kinase
c-Kit
PDGF receptor
- Apraclonidine**
Targets-Pharmacodynamics
Apraclonidine is a non-selective alpha-1 and alpha-2 adrenoceptor agonist.
Target Name(s):
[Alpha-1 Adrenoceptors](#)
[Alpha-2 Adrenoceptors](#)
- Interferon alpha-2b**

SEARCH SCENARIO:



Example 1:

What agents give edema as a side effect?

Example 2:

What targets does Alzheimer's disease affect?



Targets related to Alzheimer's Disease



This screenshot shows the search interface on the left side of the slide. It includes a navigation bar with "Home", "Contents", "Search", and "Agents" tabs. Below the navigation bar is a search box with a "Quick Search" label and a search button. The search criteria are set to "All xPharm" and "Disorders". The search term "alzheimer" is entered in the search box. The "Search within Targets" section is highlighted in green. Below this, there are two "AND" search boxes, each with a dropdown menu for "within" and a field for "Any Field". There is also an "Include Principles" checkbox and a "Display" dropdown menu set to "Record Name".

This screenshot shows the search results on the right side of the slide. It includes a navigation bar with "Home", "Contents", "Search", "Agents", "Targets", "Disorders", and "Principles" tabs. The search term "alzheimer" is entered in the search box. The search results are displayed in a list format, with 14 results shown. The results are:

1. [Muscarinic Acetylcholine Receptors](#)
2. [M1 Muscarinic Acetylcholine Receptor](#)
3. [Cyclooxygenase-2](#)
4. [GAL1 Galanin Receptor](#)
5. [Monoamine Oxidase B](#)
6. [Choline Acetyltransferase](#)
7. [I-2 Imidazoline Receptor](#)
8. [Nicotinic Acetylcholine Receptors](#)
9. [MT-1 Melatonin Receptor](#)
10. [NMDA Glutamate Receptor](#)
11. [Monoamine Oxidases](#)
12. [Gamma Secretase](#)
13. [Melatonin Receptors](#)
14. [CCR2 Chemokine Receptor](#)

xPharm

ARTICLE EXAMPLES



ELSEVIER

- [Paralens \(panadol\)](#)
- [xPharm editors](#)
- [Viral Replication](#)
- [Breast Cancer](#)
- [Monoamine oxidase](#)

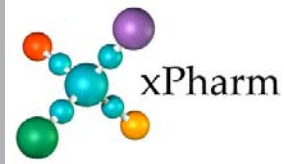
Summary



- xPharm is a growing resource, content is reviewed and updated frequently by recognized pharmacologists; and it is authoritative
- xPharm contains greater detail and more information on targets and disorders than any other single online resource
- The emphasis on experimental pharmacology (new agents, new targets)
- Easy to use- no training necessary
- xPharm is the ideal source to get answers to pharmacological questions
- Offers unlimited web-based access to users in an academic institution.



Thank you!



- Questions?
- Product Sales Manager: Doreen Tan
- Personal 14-day evaluation available at <http://www.mdl.com>
- Further questions, please visit <http://www.mdl.com/products/knowledge/xpharm/index.jsp>;
- or email D.Tan@elsevier.com



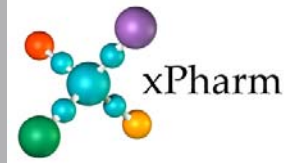
xPharm

COMMON QUESTIONS



ELSEVIER

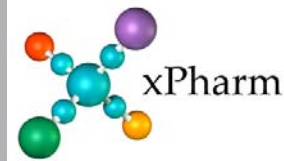
Common questions on xPharm



- **Q:** Is xPharm only about approved drugs?
A: No. xPharm's emphasis is on experimental drugs about which pharmacological activity is known. The detailed information that is provided is pre-clinical, and agents with known toxicity in whole animals may be included because of their experimental utility for life scientists. However, approved drugs are included where their pharmacology is representative of a whole class of compounds.
- **Q:** When will xPharm be complete?
A: Never: this is a living database that will evolve with the growth of research in specific areas of target development and therapeutics. The xPharm database will be updated quarterly, with breaking news updated constantly.



Common questions on xPharm



- **Q:** Why are there only a couple of thousand agents in xPharm, and more than 100,000 in MDDR?
A: xPharm is not intended as an exhaustive catalog of NCE's. One can select an agent in xPharm according to its biological properties and then search for all similar compounds in MDDR.
- **Q:** What is the difference between xPharm and MDDR?
A: MDDR is a database designed for chemists. It has 132,000 compounds and for some of these, the molecular target(s) and the therapeutic use(s) are named. By contrast, xPharm is intended primarily for life scientists providing detailed information about molecular targets, and about the diseases they are related to with links to representative examples of agent classes. Thus, xPharm and MDDR provide complementary views of pharmacological information intended for different audiences.



xPharm

**PRICING MODEL FOR
ACADEMICS & GOVERNMENT INSTITUTIONS**



ELSEVIER

Pricing Model (A&G)



<i>Population Band*</i>		<i>2005 Subscription US\$</i>		
<i>Lower limit</i>	<i>Upper limit</i>	<i>DiscoveryGate</i>	<i>xPharm</i>	<i>Patent Chemistry Database</i>
1	50	27,657	8,018	8,627
51	250	34,213	10,023	10,783
251	500	39,961	12,528	13,479

* For academics, population band refers to the number of faculty members + post-doc students in the relevant life science disciplines. E.g.. Pharmacy dept for xPharm.

** For government institutions, population size takes into account the number of relevant life science FTEs, including contractors.

