



***Life Science Research
Center (LSRC)***

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Infotrieve

- ▶ The leading integrated solution provider of information management and services
 - Over 3,000 organizations and over 50,000 end users worldwide
 - More than 1m articles delivered annually
- ▶ 18 years of experience
 - Operations worldwide
- ▶ Named one of the top-100 most important e-content companies by eContent Magazine



Life Science Research Center

Infotrieve's Life Science Research Center (LSRC) is an **innovative discovery tool** that combines articles, patents, and other STM documents with scientific data such as genes

... All with a life science focus.



What is LSRC?

LSRC is a tool that:

- ▶ Significantly increases scientists' ability to conduct deep content searches and obtain more meaningful research results
- ▶ Makes content more valuable by centralizing access to different content types, revealing hierarchical relationships between search subjects and other entities
- ▶ Provides multiple methods for evaluating the usefulness of results



LSRC – Search AND Discover

- ▶ Single interface to cross-content search
 - Narrow by categories/content type(s)
- ▶ Basic and Advanced Searching
- ▶ Discovery tools
 - Entities and Clusters
- ▶ Synonyms
 - Smart searching with UMLS, NLM's meta thesaurus
 - Automatically finds synonyms
- ▶ Full Text Indexing
 - *Windows into the Full Text*



LSRC – Search AND Discover

- ▶ ‘More like this’
- ▶ Cited References
- ▶ Awareness
 - Alerts
 - Recent/Saved Searches
- ▶ Laboratory Toolbox
 - Calculators
 - Reference Tools
- ▶ Multiple Sorting Options



Windows into the Full Text

- ▶ Going well beyond services that only use titles and abstracts, LSRC has indexed the full text of millions of:
 - Scientific journal articles
 - Book Chapters
 - Gene records
 - News articles
 - ...and more
- ▶ Delivering a window into the full text:
 - Search keywords within the full text
 - Scientific terms (entities) are extracted from within the full text and displayed along with the search results
 - View keywords in context within the full text
- ▶ With a view into the full text, users can make smart decisions about reading or purchasing an article



Additional Content Types

- ▶ Worldwide Patents
- ▶ Business Information
 - E.g. Drug Pipelines, R&D Profiles
- ▶ Life Science News
- ▶ Organisations
- ▶ Protocols
 - LabVelocity, Suppliers, Publishers



LSRC Home Page

Microsoft Internet Explorer

File Edit View Favorites Tools Help Address

Back Search Favorites Media 6334 blocked Options

Google Search Web Search Site

Home | Basic Search | Advanced Search | My Searches | Marked Documents | My Workgroups | Administration | Help

Shopping Cart - 2 items in cart

LSRC
Life Science Resource Center

Welcome, Dr. Jones! Last Login: November 18, 2004

Browse by scientific categories

powered by: **INFOTRIEVE**

Chemicals and Drugs
Techniques and Equipment
Psychiatry and Psychology
Medical Sciences
Health Care
More topics...

BioScience **Anatomy** **Organisms** **Diseases**

Alerts

Workgroups

- Tim Family (TIM-1, TIM-3, TIM-4)**
3 new comments, no new documents
- HAVCR1**
9 new comments, 3 new documents

Alerts

- LTAAlpha**
10 new results since 11/18/04
- SMUCKLER/TIM-4**
3 new results since 11/18/04
- TIM-1**
1 new result since 11/18/04

New Documents

- Fibrillar aggregates of the tumor suppressor p53 domain**
Download
- Maspin inhibits cell migration in the absence of protease inhibitory activity**
Download
- Therapeutic vaccines: Realities of today and hopes for the future**
Download
- New nucleic acid compromising a mammalian T cell immunoglobulin domain and mucin domain gene sequences**
Download

News

- New River Pharmaceuticals Announces Initial Public Offering**
New River Pharmaceuticals Announces Initial Public Offering RADFORD, Va., Aug. 5 /PRNewswire-FirstCall/ -- New River Pharmaceuticals Inc. (NASDAQ:NRPH) announced today the initial public offering of 4,200,000 shares of its common stock at \$8.00 per share on the NASDAQ National Market under the L...
- Successful Imugene Trial Achieves 7% Growth Gain in Poultry**
Successful Imugene Trial Achieves 7% Growth Gain in Poultry 5 August 2004, Sydney; Recently completed CSIRO trials of Imugene's (ASX:IMU) poultry productivity enhancer have confirmed high level efficacy with weight gains of at least 7 percent. No birds died with Imugene's product whilst three bir...
- Antioxidant Supplements Decrease Risk of Heart Disease: Epidemiologic Studies Not Trumped by Clinical Trials**
Antioxidant Supplements Decrease Risk of Heart Disease: Epidemiologic Studies Not Trumped by Clinical Trials WASHINGTON, Aug. 4 /PRNewswire/ -- Epidemiologic studies, including results from at least four large cohorts, indicate that among the healthy population the long-term use of antioxidant s...

Lab Toolbox

- Laboratory Calculators
- Interactive Reference
- Conversion Tools
- Annotated Links

Alerts

Browse by scientific categories

Customize news based on area of research



Advanced Search Screen

The screenshot shows the LSRC (Life Science Resource Center) Advanced Search interface. At the top, there is a navigation bar with links: Home | Basic Search | Advanced Search | My Searches | Marked Documents | My Workgroups | Administration | Help. A shopping cart icon indicates 'Shopping Cart - 2 items in cart'. The main header features the LSRC logo and a search bar with a 'Search' button. Below the header, the page is titled 'Advanced Search' with links for 'Expand Search' and 'Browse Indices'. The interface is powered by INFOTRIEVE.

The 'Search Builder' section includes a 'Keywords' input field. Below it are three rows of search criteria: 'And Year Between 2003 and 2004', 'Not Publisher', and 'Or Company'. There are checkboxes for 'Search Keywords in Full Text' and 'Only include documents with abstracts'. 'Search' and 'Clear Form' buttons are present.

The 'Document Types' section is divided into three columns: 'Scientific Literature', 'Business and Industry', and 'Other'. Each column has a list of document types with checkboxes. 'Scientific Literature' includes Journal Articles, Conference Proceedings, Major Reference Works, Book Chapters, and Protocols. 'Business and Industry' includes News Articles, Pipeline, Organizations / Resources, and Company Profiles. 'Other' includes Patents, Genes, Reference Look-Ups, and Author Profiles.

The 'Display Options' section at the bottom allows users to set the 'Number of results per page' to 25 and 'Sort By' to Relevance. It also includes 'Search' and 'Clear Form' buttons.

Annotations with red arrows point to specific features: 'Search within the full text' points to the 'Search Keywords in Full Text' checkbox; 'Limits' points to the 'Between 2003 and 2004' criteria; and 'Search all content at once' points to the 'Pipeline' document type.

Search within the full text

Limits

Search all content at once



Search Results Page

Microsoft Internet Explorer

File Edit View Favorites Tools Help Address

Back Search Favorites Media 6334 blocked Options

Google Search Web Search Site

Home | Basic Search | Advanced Search | My Searches | Marked Documents | My Workgroups | Administration | Help

Shopping Cart - 2 items in cart

LSRC
Life Science Resource Center

Search Results [View Galaxy](#) | [View Synonyms](#) | [Exclude Synonyms](#) | [Expand Search](#)

Query: Keyword="tim-1" OR Keyword="tim-2"
Date Range: 01/2002 to 07/2004

powered by: **INFOTRIEVE**

Content Types

- Scientific Literature (309)
- Bioinformatics (9)
- Business and Industry (35)
- Patents
- Reference Lookup (4)

Concepts

Limit Exclude New Define

- Membrane Glycoproteins (9)
- Intestine, Strain (3)
- Caenorhabditis elegans Proteins (2)
- Synthesis And Structure (2)
- [More entries...](#)

Molecules and Genetics

Limit Exclude New Define

- lymphotoxin alpha (TNF superfamily member 1) (34)
- interleukin 8 [Homo sapiens] (32)
- tumor necrosis factor [Mus musculus] (28)
- TNF alpha; tumor necrosis factor

Results 51-75 of 357 sorted by: Title << Previous | Next >> Page 3 of 15 Go

51. **Smuckler/TIM4 is a distinct member of TIM Family expressed by stromal cells of secondary lymphoid tissues and associated with lymphotoxin signalling** [Order Now](#) [More Like This](#)

Scientific Literature

Publication: European Journal of Immunology (Germany) 2004 34/2 (494-503)
Publisher: VCH Verlagsgesellschaft
Author(s): Shakhov A.N.; Rytsov S.; Tumanov A.V.; Shulenin S.; Dean M.; Kuprash D.V.; Nedospasov S.A.

51. **Antibodies Against T Cell Immunoglobulin Domain and Mucin Domain 1 (TIM-1) Antigen and uses thereof** [Link Out](#) [More Like This](#)

Patent

Patent No: WO 200484823
Inventor(s): Landes Gregory M.; Chen Francine; Bezabeh Binyam; Foltz Ian
Assignee: Abgenix, Inc. Fremont CA

51. **HAVCR1 hepatitis A virus cellular receptor 1 (homo sapiens)** [Link Out](#) [More Like This](#)

Bio-informatics

GeneID: 26762
Locus Tag: HGNC 17866
MIM: 606518
Updated: 19-Oct-2004

51. **Asthma gene family uncovered** [OpenURL](#) [More Like This](#)

Business and Industry

For Release: Winter 2002
Source: Reuter's Health

51. **New nucleic acid comprising a mammalian T cell Immunoglobulin domain and Mucin domain Gene sequences, useful for treating Cancer or Asthma.** [Order Now](#) [More Like This](#)

Published Literature

Gene Resources

Entity Extraction

Concept Clusters

Multiple Content Types

'Bread-crum Trail'

LSRC –Discovery Tools

- ▶ Entity extraction

- Terms from Authority Files extracted from the Full Text

- ▶ Anatomy
 - ▶ Chemicals
 - ▶ Diseases
 - ▶ Drugs
 - ▶ Genes
 - ▶ Organisms

- ▶ Clustering

- Extracts common terms/phrases/concepts

- On the Fly



*Reveals Novel Relationships &
Encourages the “Eureka” Moment*



Entities & Concept Clusters

Anatomy

Limit Exclude New Define

- Cells
- Lymphocytes
- Blood
- Serum
- Spleen
- Monocytes
- Fibroblasts
- Tissues
- Central Nervous
- Lung

[More Entities](#)

Diseases

Limit Exclude New Define

- Infectious Mononucleosis
- Infection
- Disease
- Syndrome
- Lymphoma
- Fever
- Death
- Lymphocytosis
- Lymphoproliferative Disorders
- Edema

[More Entities](#)

Clusters

- [protein](#)
 - [protein kinase](#)
 - [circadian rhythms protein](#)
 - [clock protein](#)
 - [binding protein](#)
 - [containing protein - bhlhb2](#)
 - [protein coupled receptor - retinal pigment epithelium RPE](#)
 - [mutations in the prion protein gene](#)
- [circadian](#)
- [gene](#)
- [cloned](#)
- [functions](#)
- [cell](#)
- [receptors](#)
- [factor](#)
- [humans](#)
- [hormones](#)

[More Clusters...](#)



Entity Extraction – An Example

Search using a Protein Name

- ▶ Entities Reveal:
 - Organisms this protein is known in
 - Diseases this protein is involved in
 - Drugs that act on this protein

Search using a Disease Name

- ▶ Entities Reveal:
 - Parts of the body affected
 - Related drugs/chemicals
 - Genes associated with the disease



*Simplifies the Process of Getting to
the Critical Information*



Document Details Page

Microsoft Internet Explorer

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Shopping Cart - 2 items in cart

LSRC Life Science Resource Center

Document Details Previous Document | Return to Search Results | Next Document

powered by: INFOTRIEVE

Molecules and Genetics

Limit Exclude New Define

- lymphotoxin alpha (TNF superfamily member 1) (34)
- interleukin 8 [Homo sapiens] (32)
- tumor necrosis factor [Mus musculus] (28)
- TNF alpha: tumor necrosis factor alpha (17)

More entries ...

Diseases

Limit Exclude New Define

- Asthma (8)
- Distal colitis (4)
- Myocardial Infarction (3)

More entries ...

Anatomy

Limit Exclude New Define

- Spleen (25)
- Mucous (9)
- Lymphoid tissue (8)
- Langerhans Cells (8)

More entries ...

View Full Record

51. **SMUCKLER/TIM4 is a distinct member of TIM family expressed by stromal cells of secondary lymphoid tissues and associated with lymphotoxin signalling**

Shakhov A.N.; Rybtsov S.; Tumanov A.V.; Shulenin S.; Dean M.; Kuprash D.V.; Nedospasov S.A.

Source: European Journal of Immunology 2004 34/2 (494-503) Other articles in this issue

Publisher: Wiley-VCH

Order Now More Like This Rate this Document

Abstract: Lymphotoxin-alpha (LTalpha) was originally linked to delayed-type hypersensitivity and its production was later attributed to Th1, but not Th2 cells. Studies employing knockout mice demonstrated that LT signaling is essential for the development and functional compartmentalization of lymphoid tissues. Here, using gene expression profiling, we identified a novel gene termed SMUCKLER (spleen, mucin-containing, knockout of lymphotoxin), that is selectively down-regulated in spleens of LTalpha- or LTbeta-deficient mice. The encoded transmembrane protein contains immunoglobulin V and mucin domains and is identical to TIM4, a predicted member of recently identified TIM family (T cell immunoglobulin- and mucin-domain-containing molecule).

Keyword "TIM1" in Full Text: <<Previous | Next>>

"...family (T cell immunoglobulin- and mucin-domain-containing molecule). Unlike TIM1 and TIM3, which were implicated in T cell-mediated functions..."

Institution: Engenhardt Inst. of Molec. Biology, Russian Academy of Sciences, 119991 Moscow

Comments on this article: Add a new comment

- * Related work on TIM1 and TIM3 (9 replies, 3 new)
- * Previous Research on SMUCKLER (3 replies, 0 new)

Direct URL to return to this page: <http://lsrc.infotrieve.com/direct.aspx?a=BACD200400313442>

Entity extraction within this article

All articles by this author

Find 'More like this'

Keyword in context, within full text



Collaboration

Personal and Group Projects

- Organize your work in project folders
 - *Personal and workgroup access*
- Rate documents, share comments
- Discussion boards for your work group

Workgroups

Tim Family (TIM-1, TIM-3, TIM-4)
3 new comments, no new documents

HAVCR1
9 new comments, 3 new documents



Comments on this article: [Add a new comment](#)

- * [Related work on TIM1 and TIM3](#) (9 replies, 3 new)
- * [Previous Research on SMUCKLER](#) (3 replies, 0 new)



Expanded Search

LSRC Webfeat Search - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://wf3dev.webfeat.org/lsrcsearch.asp> Go Links

Google Search Web 267 blocked AutoFill Options

LSRC Life Science Resource Center Shopping Cart

Expanded search

powered by: INFOTRIEVE

Advanced Search

Keywords

AND

AND

AND

All dates Year range From: To:

Go Clear

Select Databases to Search

- All Resources
- Amazon
- Clinical Pharmacology
- CNN
- Google
- International Pharmaceutical Abstracts
- PsycINFO
- Science Citation Index
- WebMD Scientific American Medicine

Done Internet

start 4 I... Mic... 8 M... 64... Inb... Mic... Dra... Requirements 4:08 PM

Pre-filled with Search Term

Set of Databases Selected by User's Organisation



Expanded Search

- ▶ Federated Search/Meta Search
 - *Allows you to search all of your databases at the same time from a single interface*
- ▶ 1000s of connectors already built
 - *Access available free or subscription databases*
- ▶ One search interface
 - *One authentication manager*
- ▶ Integrated with journal content management
- ▶ Clustering
- ▶ First returned, first displayed
- ▶ Access the native interface of any result



Customer Feedback

“LSRC simplifies the way researchers access and prioritize information, and it also *helps to identify important relationships* between data – for example between a journal article and a patent. No other tool allows you to see – *in one place using a single search* – patents, protocols, tools and papers related to any scientific subject.”

*Dr. Paul Rennert, Senior Scientist,
Immunology, Biogen Idec.*



Creating the Integrated Solution in eR&D



MANAGE

- eLab Notebook



PROCURE

- Lab Product Search
- Procurement
- Experimental Design Tools



DISCOVER

- Life Science Search & Discovery

**Electronic
Research
Environment**



SEARCH

- Federated Search




- Article Delivery
- Article Order Management

DELIVER



Benefits of LSRC

- ▶ Not Just 'Repackaging Content'
 - ▶ Discovery, not just search
 - Entity Extraction
 - Clustering
 - ▶ Multiple Content Types
 - Cross-referenced
 - Not limited to one publisher
 - ▶ Window into the Full Text through Full Text Indexing
 - Enables deep searches
 - ▶ Broaden with Expanded Search
 - Display Keywords in Context
 - Entity Extraction
-  **Reveal Relationships**



Summary

LSRC is a tool that:

- ▶ Significantly increases scientists' ability to conduct deep content searches and obtain **more meaningful research results**
- ▶ Makes content more valuable by centralizing access to different content types, **revealing hierarchical relationships** between search subjects and other entities
- ▶ Provides multiple methods for evaluating the **usefulness of results**



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