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Aerospace Biology	Cell Biology	Pathology
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Anatomy	Environmental Biology	Physiology
Bacteriology	Experimental Medicine	Public Health
Behavioral Sciences	Genetics	Radiation Biology
Biochemistry	Immunology	Systematic Biology
Bioengineering	Microbiology	Toxicology
Biophysics	Nutrition	Veterinary Science
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- What are the adverse effects of natalizumab?

Date Coverage 1926-present

Update Frequency Weekly

Geographic Coverage International

Document Types Journal articles, conferences, symposia, meetings, books and monographs, a small number of patents

Journals About 5,400 journals from over 90 countries

Publisher

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CD62L is not a reliable biomarker for predicting PML risk in natalizumab-treated R-MS patients

Lieberman, Linda A.; Zeng, Wanyong; Singh, Carol; Wang, Wenting; Otipoby, Kevin L.; et al. **Neurology** 86.4: 375-381. (Jan 26, 2016)

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Abstract (summary) [Translate](#)

Objective:To assess if the percentage of CD3(+)CD4(+)CD62L(+) cells in cryopreserved peripheral blood mononuclear cells (PBMCs) (here termed %CD62L) can predict risk of developing progressive multifocal leukoencephalopathy (PML) and better inform the physician for benefit-risk assessment of natalizumab treatment decisions in a global setting.
Methods:Cryopreserved PBMCs from 21 natalizumab-treated patients who developed PML and 104 matched natalizumab-treated patients with multiple sclerosis (MS) without PML collected as a part of Biogen clinical trials were retrospectively examined for CD3, CD4, CCR7, CD45RA, and CD62L by flow cytometry.
Results:In this cohort, %CD62L in natalizumab-treated patients did not predict PML risk. Natalizumab-treated patients with MS without PML showed highly variable %CD62L upon serial sampling. In the STRATA study, the distribution of %CD62L in samples collected more than 6 months before a PML diagnosis, at diagnosis, and in natalizumab-treated patients without PML overlapped. No statistical threshold for risk could be determined. In addition, we demonstrated that lymphocyte viability strongly affects %CD62L, supporting previous reports that %CD62L is inherently unstable following cryopreservation and is sensitive to sample collection.
Conclusion:Data from this well-controlled cohort of natalizumab-treated patients indicate that %CD62L is not a biomarker of PML risk.

Indexing (details) Cite

Classification

02506: Cytology - Animal;
02508: Cytology - Human;
10006: Clinical biochemistry - General methods and applications;
12512: Pathology - Therapy;
15002: Blood - Blood and lymph studies;
15004: Blood - Blood cell studies;
20506: Nervous system - Pathology;
22002: Pharmacology - General;
22005: Pharmacology - Clinical pharmacology;
22012: Pharmacology - Connective tissue, bone and collagen-acting drugs;
22018: Pharmacology - Immunological processes and allergy;
22501: Toxicology - General and methods;
22504: Toxicology - Pharmacology;
34502: Immunology - General and methods;
34508: Immunology - Immunopathology, tissue immunology;
36006: Medical and clinical microbiology - Virology

Major concept

Pharmacology;
Toxicology;
Clinical Immunology -- Human Medicine;Medical Sciences;
Infection;
Clinical Chemistry -- Allied Medical Sciences;
Neurology -- Human Medicine;Medical Sciences

TI
AU,AUFN,AULN
PUB

AB

CC

MJCN

ORM	Biological organism	Organism:	human
		Organism:	common
		Dev stage:	adult, middle age
		Gender:	female, male
STX		Supertaxa:	Primates, Mammalia, Vertebrata, Chordata, Animalia
TXN		Taxonomic notes:	Animals, Chordates, Humans, Mammals, Primates, Vertebrates
BC		Biosystematic class:	Hominidae [86215]
POR	Part and structure	Part/ Structure:	lymphocyte
		Organ:	immune system, blood and lymphatics;
		Part/ Structure:	CD4 positive cell
		Organ:	immune system, blood and lymphatics;
		Part/ Structure:	peripheral blood mononuclear cell
		Part/ Structure:	PBMC
		Organ:	immune system, blood and lymphatics;
		Part/ Structure:	CD3 positive cell
		Organ:	immune system
DIS	Disease	Disease:	multiple sclerosis
		MeSH term:	Multiple Sclerosis (MeSH)
		Disease affiliation:	nervous system disease
		Disease affiliation:	immune system disease
		Disease detail:	drug therapy
		Disease:	progressive multifocal leukoencephalopathy
		MeSH term:	Leukoencephalopathy, Progressive Multifocal (MeSH)
		Disease affiliation:	nervous system disease
		Disease affiliation:	viral disease
		Disease detail:	drug-induced etiology
SUBST	Substance	Substance:	CCR7
		Substance:	CD45RA
		Substance:	CD62L
		Additional info:	biomarker
		Substance:	CD62L1
		Substance:	natalizumab
RN		CAS:	189261-10-7
		Additional info:	adverse effects
			antiinflammatory-drug
			immunologic-drug
MQ	Method and equipment	Method/ Equipment:	flow cytometry
		Role:	laboratory techniques, histology and cytology techniques;
		Method/ Equipment:	cryopreservation
		Role:	laboratory techniques;
		Method/ Equipment:	risk assessment
		Role:	clinical techniques, diagnostic techniques

IF	Identifier (keyword)	cell viability, STRATA study
TI	Title	CD62L is not a reliable biomarker for predicting PML risk in natalizumab-treated R-MS patients
AU,AUFN,AULN	Author	Lieberman, Linda A.; Zeng, Wanyong; Singh, Carol; Wang, Wenting; Otipoby, Kevin L.; Loh, Christine; Plavina, Tatiana; Gorelik, Leonid; Ransohoff, Richard M.; Cahir-McFarland, Ellen
CA	Correspondence author	Cahir-McFarland, Ellen Biogen, Discovery Res, Cambridge, MA USA. Ellen.Cahir-McFarland@biogen.com
LA	Language	English
SL	Language of abstract	English
DTYPE	Document type	Article, Feature
PUB	Publication title	Neurology
VO	Volume	86
ISS	Issue	4
PG	Pagination	375-381
ISSN	ISSN	0028-3878
	Electronic ISSN	1526-632X
PT	Publication type	Article
DOI	DOI	http://dx.doi.org/10.1212/WNL.0000000000002314
URL	URL	http://www.neurology.org
PD, YR	Publication date	Jan 26, 2016
DCRE	Date created	2016-03-01
DSTAT	Document status	New
	Source attribution	BIOSIS Previews, © Publisher specific
AN	Accession number	PREV201600229031
	Document URL	http://dialog.proquest.com/professional/docview/1769326874?accountid=174335
	Copyright	Copyright Thomson 2016
FAV	First available	2016-03-02
UD	Updates	2016-03-02
	Database	BIOSIS Previews® (1926 - current)

Search Fields

Field Name	Field Code	Example	Description and Notes
Abstract	AB	ab("progressive multifocal leukoencephalopathy" or pml)	About 65% of documents in BIOSIS Previews® have an abstract. Use adjacency and/or Boolean operators to narrow or broaden your search, and double quotes to search for a precise phrase.
Abstract present	ABANY	"progressive multifocal leukoencephalopathy" AND abany(yes)	Add: <i>AND ABANY(YES)</i> to a query to limit retrieval to documents with abstracts. Use double quotes to search for a precise phrase.
Accession number	AN	an(prev201600229031)	A unique document identification number assigned by the information provider.
All fields	ALL	all(pml AND natalizumab)	Searches all fields. Use adjacency and/or Boolean operators to narrow or broaden your search.
All fields + text	--	"natalizumab" AND "pml risk"	Same as ALL field code: searches all fields.
Author ¹ Author First Name Author Last Name	AU AUFN AULN	au("lieberman linda a") aufn(linda) or au(l*) auln(lieberman)	All authors are included in BIOSIS Previews® documents.
First author	FAU	fau(lieberman)	The first name listed in Author field. You can look up authors in the author browse list, but you cannot specify it as a first author in the browse list.
Author affiliation	AF	af("duke eye ctr")	Includes as much data as is available in the original document, such as department, organization, address, city, state, country, author email, etc.
Biological organism	ORM	orm(human)	This is the name of the organism(s) discussed in the article. Additional qualifying information may also be present including variant names, gender, developmental stage, the organism's role, a fossil indicator and a flag indicating that the organism is a new taxon. The Biosystematic class (BC), Supertaxa (STX) and Taxa Notes (TXN) are also included in this field. See the separate entries for these. Organisms are also searchable with the Subject field code (SU).
Biosystematic class	BC	bc(hominidae) bc(86215)	This represents the organism classifier and a corresponding five-digit numeric code for organisms discussed in the article. Both text and codes are searchable with field codes BC and SU.

¹ A Lookup/Browse feature is available for this field in the Advanced Search dropdown or in Browse Fields.

Field Name	Field Code	Example	Description and Notes
CAS® Registry Number ⁵	RN	rn(189261-10-7) rn("EC 4.3.1.5")	This contains the unique five- to nine-digit number in hyphenated format assigned by the Chemical Abstracts Service to specific chemical substances; for enzymes, the Enzyme Commission number appears here. RN and EC numbers are also searchable using the Substance field code (SUBST).
Classification ¹	CC	cc(12502) cc("pathology - general")	A five-digit numeric code representing a broad area in the life sciences, followed by the name of the concept. Both are searchable with CC or CNC. The name (but not the code) is also searchable with the Subject field code, SU. You can select these categories from a Look-Up on the Advanced Search and Command Line pages.
Conference information	CF	cf(57 th AND "radiation oncology") cf(2015-10-18) cf("radiation oncology") cf(nashville, tn, usa)	About 15% of Biosis documents are conference papers. Use CF to search any part of the conference information.
Conference location	CG	cg("san antonio") cg(usa)	The location of the conference
Conference sponsor	CS	cs("amer soc radiat oncol")	The conference sponsor
Conference title	CFTI	cfti(57th AND "radiation oncology")	The title of the conference
Corporate author	CA	ca(jphc study group)	The author of the article when it is an organization or group
Date created	DCRE	dcre(20160301)	This represents the date BIOSIS created the record and added it to their system. It predates its delivery to Dialog and has no relation to the Dialog update date. If a document has been revised by BIOSIS it does NOT have a Date created date; instead a Date revised date is displayed. See also <i>Document status</i> . Date range searching is supported.
Date revised	DREV	drev(>20171231)	This represents the date BIOSIS last revised the record. It predates its delivery to Dialog and has no relation to the Dialog update date. If a document has never been revised by BIOSIS it does NOT have a Date revised date; only a Date created date is displayed. See also <i>Document status</i> . Date range searching is supported.

Field Name	Field Code	Example	Description and Notes
DOI	DOI	doi(10.1212/WNL.0000000000002314)	Digital Object Identifier. Search the portion of the DOI that follows http://dx.doi.org/ .
Disease	DIS	dis("multiple sclerosis") dis("multiple sclerosis" AND "drug therapy") dis("nervous system disease")	The BIOSIS name of the disease described in the article appears here, followed by the MeSH term. Qualifying terms may also be present under headings "disease affiliation" and "disease detail". All terms in this field are searchable with DIS and SU.
Document status	DSTAT	dstat(new) dstat(revised)	BIOSIS records have a status of <i>New OR Revised</i> . See also <i>Date created</i> and <i>Date revised</i> .
Document title			See Title
Document type ¹	DTYPE	dtype(article) dtype(conference) dtype(patent)	The majority of documents in BIOSIS are articles from journals, but a small number of other types are available, notably conference material (about 20% of the total) and patents (about 2%). To search specifically for books (about 4%), use PSTYPE(book).
First available	FAV	fav(2016-03-02)	Indicates the first time a document was loaded in Biosis on Dialog. It will not change however many times the record is subsequently reloaded, as long as the Accession number remains the same.
From database ²	FDB	natalizumab AND fdb(biosispreviews) natalizumab AND fdb(10000127)	Useful in multi-file searches to isolate records from a single file. FDB cannot be searched on its own; specify at least one search term then AND it with FDB.
Enzyme Commission number	ECN	ecn("1.14.16.4")	The Enzyme Commission Number displays in the Substance field, when available. It is also searchable using the Substance and Registry Number field codes (SUBST and RN)
Gene name	GEN, GNA	gen("vp1-2b") gen("hepatitis a virus gene")	If the gene name is included in the article it appears here. It is searchable with GEN, GNA and also with the Subject field code, SU.

² Click the "Field codes" hyperlink at the top right of the Advanced Search page. Click "Search syntax and field codes", then click on "FDB command" to get a list of database names and codes that can be searched with FDB.

Field Name	Field Code	Example	Description and Notes
Genetic sequence/ information	GEN, GQ	gen(nm002467) gen(genbank) gen("nucleotide sequence")	Molecular sequence data. An article may have a reference to the repository and the accession number assigned to the sequence; both are displayed here. Qualifying information may also be available. Sequence data is searchable with GEN, GQ and also with the Subject field code, SU.
Geographic location	LOC	loc(lebanon) loc(paleartic)	This is a geographic term that describes the location or place mentioned in the article. Variant names, geopolitical terms and zoogeographical terms may also be present. All terms in this field are searchable with LOC and SU.
Geologic time	GT	gt(jurassic)	These are terms for geological time periods or eras mentioned in the article. A classifier or variant and other explanatory details may also be present. All parts of this field are searchable with GT and SU.
Identifier	IF	if("cell viability") if("strata study")	BIOSIS occasionally assigns miscellaneous descriptors to articles when they don't fit into the more specific categories. These are displayed here and are searchable with IF and SU.
ISSN	ISSN	issn(0161-6420) issn(01616420)	Also searchable via the Look Up Citation tool.
Issue	ISS	iss(12) iss(supp)	Also searchable via the Look Up Citation tool.
Journal title	JN	jn.exact(neurology)	For single-word titles, add exact to the field code to ensure correct retrieval. A Look up list is available under Publication title. See also Publication title, PUB.
Language	LA	la(english)	The language in which the document was originally published.
Major concept ¹	MJCN	mjcn(neurology) mjcn(toxicology)	Broad BIOSIS indexing categories representing the major concepts of the article. Also searchable with the Subject field code (SU). You can select these categories from a Look-Up on the Advanced Search and Command Line pages.
Method and equipment	MQ	mq("flow cytometry") mq("diagnostic techniques")	If methods, apparatus or scientific technique are an important part of the article, they appear here, often accompanied by qualifying descriptors, and are searchable with MQ and the Subject field code, SU.
Organism			See Biological organism

Field Name	Field Code	Example	Description and Notes
Part and structure	POR	por("CD4 positive cell")	These are terms describing components of organisms above the macromolecular level. Variant names, organ systems and other explanatory details may also be present. All terms in this field are searchable with POR and SU.
Patent assignee	PA	pa("du pont" or dupont)	The assignee is searchable with PA and PAT.
Patent information	PAT	pat("us 09040242") pat(dupont) pat(2015) pat(us)	Patents make up about 2% of BIOSIS Previews®. The Patent information field may include patent publication number, assignee, publication date, classification and publication country. These are searchable with PAT as well as with the more specific field codes PN, PA, PD.
Patent inventor	INV	inv(agarwal)	The inventor is searchable with INV only, not PAT.
Patent number	PN	pn(07767715)	The patent publication number is searchable with PN and PAT.
Pagination	PG	pg(375-381) pg(375)	Pagination includes start page and end page – where available. The start page is also searchable on the Look Up Citation page.
Publication date	PD	pd(20160126) pd(2016-01-26) pd(20150101 - 20161231) pd(>20151231)	Date range searching is supported.
Publication title	PUB	pub.exact(neurology) pub("annual review of psychology")	Title of the publication in which the article appeared. The majority of BIOSIS publications are journals, but small numbers of books are also included. Field code JN also retrieves the journal title. To retrieve specific titles, add 'exact' to the field code if it is a one-word name, and enclose the title in double quotes if it is a multi-word name.
Publication type	PSTYPE	pstype(article) pstype(meeting) pstype(book) pstype(patent)	The majority of documents in BIOSIS are journal articles, but a small number of other publication types are available, notably meetings (about 20% of the total), books (about 4%) and patents (about 2%).
Publication year	YR	yr(2016) yr(>2015)	Date range searching is supported.
Source information	SRC	src(psychology and 2016)	Includes Publication title, Issue, Volume, ISSN, Publication date, and Pagination.
Subject ¹	SU	su("multiple sclerosis" AND lymphocyte)	SU includes the majority of descriptor fields, but not the Substance field.

Field Name	Field Code	Example	Description and Notes
Substance	SUBST	subst(natalizumab) subst(189261-10-7) subst("EC 4.3.1.5") subst(natalizumab AND "adverse effects") subst(natalizumab) AND su("multiple sclerosis") subst(natalizumab) AND mjcn(toxicology)	Names of substances discussed in the article appear here, and CAS Registry and Enzyme Commission numbers are included when available. Often additional qualifying information is present, notably "adverse effects". All parts of the field are searchable with SUBST. CAS and EC numbers are also searchable with RN and ECN. Note that drug names are not included in any of the specific BIOSIS descriptor fields and substance information is not searchable with SU. So to search a drug in combination with a disease, organism or other descriptor, search with separate field codes, as in the last two examples.
Super taxa ¹	STX	stx(mammalia)	Super taxa are high-level taxonomic terms, in Latin, that refer to broad categories of organisms including microorganisms. They are presented in order from lowest level taxa to highest. Displayed as part of Biological organism, they are searchable with STX and SU.
Taxa notes	TXN	txn(humans)	These are common names of broad categories of organisms. Displayed as part of Biological organism, they are searchable with TXN and SU.
Title	TI	ti(CD62L AND biomarker)	This is the title of the article. TI searches the Title, Original Title and Subtitle, when available.
Title only	TIO	tio("cardiac arrest")	TIO searches the Title only, not Subtitle or Original title.
Original title	OTI	oti("herz-kreislauf-stillstand")	The original or alternate title is usually the original-language title of a non-English article.
Updated	UD	ud(2016-03-02)	The date(s) the record was loaded as a result of an update provided by the supplier.
URL	URL	url(http://www.neurology.org)	This is the url of the publisher of the document.
Volume of publication	VO	vo(86)	Volume is also searchable via the Look Up Citation tool.

Search Tools

Field codes are used to search document fields, as shown in the sample document. Field codes may be used in searches entered on the **Basic Search**, **Advanced Search**, and **Command Line** search pages. **Limit options**, **Common Command Line Concepts**, **Look up** lists, and “Narrow results by” filters tools are available for searching. Some data can be searched using more than one tool.

Limit Options

Limit options are quick and easy ways of searching certain common concepts. On the Advanced search page check boxes are available for:

Abstract included, Humans, Animals, Plants, Microorganisms, Females, Males

Short lists of choices are available for:

Document type, Language

Date limiters are available in which you can select single dates or ranges of dates for date of **publication** and **updated**.

Command Line Common Concepts

Search common concepts as follows:

ABANY(YES), HUMAN(YES), ANIMAL(YES), PLANT(YES), MICROORGANISM(YES), FEMALE(YES), MALE(YES)

Find review articles with the strategy: **DTYPE(REVIEW)**

Find articles on humans either with HUMAN(YES) or with the following strategy:

ORM(“HUMANS” OR “HOMINIDAE”)

Look up Lists

You can browse the contents of certain fields by using Look Up lists. These are particularly useful to validate spellings or the presence of specific data. Terms found in the course of browsing may be selected and automatically added to the Advanced Search form. Look Up lists are available in the fields drop-down and in the search options for:

Major concept, Concept code, Biosystematic code, Super taxa

And in the fields drop-down only for:

Author, Publication title

“Narrow Results By” Filters

When results of a search are presented, the results display is accompanied by a list of “Narrow results by” options shown on the right-hand panel. Click on any of these options and you will see a ranked list showing the most frequently occurring terms in your results. Click on the term to apply it to (“narrow”) your search results. “Narrow results by” limiters in BIOSIS Previews include:

Author, Language, Publication title, Subject, Document type, and Publication date

Look Up Citation

If you need to trace a particular bibliographic reference, use the Look Up Citation feature. Find a link to this toward the top left of the Advanced Search page, or in the drop list under Advanced on any search form; click this and you will go to a form where you can enter any known details of the citation, including document title, author, journal name, volume, issue, page, publication date, ISSN.

Notes

Subject indexing in BIOSIS Previews®

There are many fields describing different aspects of the articles' subjects. They all have their own individual field code, and most of them are also searchable with the Subject field code SU. Note, however, that drug names are only present in the Substance field, searchable with SUBST, and not with SU. The following table is an overview of BIOSIS Previews® subject fields with their search codes:

BIOSIS Subjects		
Field Code		Field Name
SU	BC	Biosystematic class
	CNC, CC	Concept code <i>(text searchable with SU, but not code)</i>
	DIS	Disease
	GNA	Gene name
	GQ	Genetic sequence
	GT	Geologic time
	IF	Identifier
	LOC	Location
	MJCN	Major concept
	MQ	Method & equipment
	POR	Part and structure
	ORM	Organism
	STX	Super taxa
	TXN	Taxa notes
SUBST	SUBST	Substance
	RN	CAS Registry number

Document Formats

Pre-defined document formats are available for viewing and download. Search results can be downloaded with the Download all results, Email, Print and Export/Save options, and when creating an alert. To design your own download format, choose the "Custom" format option and check the fields to be displayed.

Document Format	Fields	Online	Export/Download
Brief view	Title and Publication date.	✓	
Detailed view	Brief view plus a 3-line KWIC window.	✓	
KWIC (Keyword in Context)	Detailed view plus all occurrences of your search term highlighted in the field(s) where the terms occur.	✓	✓
Preview (subscribers only)	Title, Author, Publication title, Volume, Issue, Pagination, Publication date, Abstract, Major concept	✓	
Preview (transactional)	Title, Publication date, abbreviated Abstract	✓	
Brief citation	Complete record minus the Abstract and subject indexing.	✓	✓
Citation/Abstract	The complete record with Abstract and subject indexing.	✓ ³	✓
Custom	Choose the fields you want.		✓ ⁴

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³ In Online-view mode, Dialog gives access to two Document Formats only: *Brief citation*, and the 'most complete' format available. Depending on the database, or the amount of data available for a record, the most complete format may be any one of *Citation*, *Citation/Abstract*, *Full text*, or *Full text – PDF*.

⁴ Custom export/download format is available in the following mediums only: HTML, PDF, RefWorks, RTF, Text only.

⁵ CAS Registry Numbers® are the intellectual property of the American Chemical Society; and are used by Clarivate Analytics with the express permission of CAS. CAS Registry Number(s)® have not been verified by CAS and may be inaccurate.