

# SciFinder Web

源于化学，超越化学的一站式检索平台

## Case study

肉毒毒素( botulinum toxin)



### 新西兰恒天然集团奶粉出现质量问题

新西兰初级产业部8月3日宣布,新西兰乳制品巨头恒天然集团旗下部分产品可能含有肉毒杆菌毒素,可能受污染的产品被用于婴儿配方奶粉和运动饮料的生产

恒天然集团3日举行新闻发布会  
检测结果显示

**这些浓缩乳清蛋白  
可能含有肉毒杆菌的毒素  
可能成为食用者中毒**

3批 浓缩乳清蛋白出现质量问题  
2012年5月 产于新西兰本地一家工厂  
涉嫌被污染的产品总量 38吨  
污染源 在北岛怀卡托地区豪塔普工厂的一根受污染的管道

**浓缩乳清蛋白**  
被广泛用于婴儿奶粉、儿童成长奶粉和运动饮料中,但一般的乳制品如鲜奶、奶酪、酸奶和经过超高温消毒的牛奶产品,则不会受到影响

**肉毒杆菌**  
是一种生长在常温、低酸和缺氧环境中的革兰氏阳性细菌  
在不正确加工、包装、储存的罐装食品或真空包装食品里都能生长  
临床以恶心、呕吐及中枢神经系统症状为主要表现,如抢救不及时,病死率较高

针对新西兰企业在浓缩乳清蛋白粉中检出肉毒杆菌一事,国家质检总局2日晚要求进口商立即召回可能受污染产品



### 恒天然事件发生近半月 新西兰品牌奶粉销量下滑50%

时间: 2013-08-24 15:57:58 星期六

来源: 广州日报

编辑: 胡一敏



### 恒天然乳品污染事件为虚惊 不含肉毒杆菌

中国网 www.china.com.cn 2013-08-29 07:19

打印 | 转发 | 评论

本月初爆发的恒天然出口中国的部分乳制品可能受肉毒杆菌污染事件最终被证实为虚惊一场。昨天,新西兰初级产业部发表声明:经检测,恒天然浓缩乳清蛋白粉中的细菌为生孢梭菌,而非肉毒杆菌,不会产生肉毒毒素;新西兰奶粉没有食品安全问题,请消费者放心。对此,恒天然昨天也发表声明称,对此结果深表欣慰。

肉毒杆菌是一种生活在缺氧环境下的细菌,它本身没有毒性,引起人体疾病的主要是它分泌的肉毒毒素,肉毒毒素是目前毒性最强的毒素之一。

肉毒毒素有哪些方面的毒性? 最新的检测方法是什么? 用SciFinder检索看看。

# 文献检索

The screenshot shows the SciFinder interface. At the top, there are navigation tabs: 'Explore', 'Saved Searches', and 'SciPlanner'. Below this, the search topic is set to 'Botulinum Toxin'. On the left, there is a sidebar with categories: 'REFERENCES' (selected), 'SUBSTANCES', and 'REACTIONS'. Under 'REFERENCES', options include 'Research Topic', 'Author Name', 'Company Name', 'Document Identifier', 'Journal', 'Patent', and 'Tags'. Under 'SUBSTANCES', options include 'Chemical Structure', 'Markush', 'Molecular Formula', 'Property', and 'Substance Identifier'. Under 'REACTIONS', the option is 'Reaction Structure'. The main search area has a text input field containing 'botulinum toxin', which is highlighted with a red box. Below the input field, there are 'Examples:' such as 'The effect of antibiotic residues on dairy products' and 'Photocyanation of aromatic compounds'. A 'Search' button is visible, and an 'Advanced' link is also present.

以“**botulinum toxin**”为主题进行文献检索

选择有“**concept**”同义词扩展的选项

This screenshot shows the SciFinder interface with the search results for 'botulinum toxin'. The search topic is 'botulinum toxin'. Below the search bar, there are 'REFERENCES' and a table of results. The table has two columns: a selection checkbox and a description of the search results. The first row shows '12940 references were found containing "botulinum toxin" as entered.' with an unchecked checkbox. The second row shows '14636 references were found containing the concept "botulinum toxin".' with a checked checkbox, and this row is highlighted with a red box. Above the table, there are 'Select All' and 'Deselect All' buttons. Below the table, there is a 'Get References' button.

Select	References
<input type="checkbox"/>	12940 references were found containing "botulinum toxin" as entered.
<input checked="" type="checkbox"/>	14636 references were found containing the concept "botulinum toxin".

# 通过查找综述快速了解botulinum toxin

引文排序，找到被引用  
次数最多的文献

REFERENCES ?

Analyze Refine Categorize

Refine by: ?

- Research Topic
- Author
- Company Name
- Document Type
- Publication Year
- Language
- Database

Document Type(s)

- Biography
- Book
- Clinical Trial
- Commentary
- Conference
- Dissertation
- Editorial
- Historical
- Journal
- Letter
- Patent
- Preprint
- Report
- Review

Refine

Get Substances Get Reactions Get Related Citations Get Full Text Tools

Sort by: Citing References

Create Keep Me Posted Alert Send to SciPlanner

Answers per Page [20] Display: — = ≡

0 of 2408 References Selected Page: 1 of 121

- Botulinum toxin as a biological weapon: Medical and public health management** Full Text  
By Arnon, Stephen S.; Schechter, Robert; Inglesby, Thomas V.; Henderson, Donald A.; Bartlett, John G.; Ascher, Michael S.; Eitzen, Edward; Fine, Anne D.; Hauer, Jerome; Layton, Marcelle; et al  
From JAMA, the Journal of the American Medical Association (2001), 285(8), 1059-1070. | Language: English, Database: CAPLUS  
A review with 106 refs. The Working Group on Civilian Biodefense has developed consensus-based recommendations for measures to be taken by medical and public health professionals if **botulinum toxin** is used as a biol. weapon against a civilian population. The working group included 23 representatives from academic, government, and private institutions with expertise in public health, emergency management, and clin. medicine. The primary authors (S.S.A. and R.S.) searched OLDMEDLINE and MEDLINE (1960-Mar. 1999) and their professional collections for literature concerning use of **botulinum toxin**... ~435
- Structure and function of tetanus and botulinum neurotoxins** Full Text  
By Montecucco, Cesare; Schiavo, Giampietro  
From Quarterly Reviews of Biophysics (1995), 28(4), 423-72. | Language: English, Database: CAPLUS  
A review with many refs. Presynaptic activity; structure; cell binding; internalization; translocation into the neuronal cytosol; the Zn-endorpeptide activity of clostridial neurotoxins; VAMP, SNAP-25, and syntaxin; target recognition; and the neuroexocytosis app. and the clostridial neurotoxins are discussed. ~284
- Mechanism of action of tetanus and botulinum neurotoxins** Full Text  
By Montecucco, Cesare; Schiavo, Giampietro  
From Molecular Microbiology (1994), 13(1), 1-8. | Language: English, Database: CAPLUS  
A review with many refs. ~261
- Identification of the major steps in botulinum toxin action** Full Text  
By Simpson, Lance L.  
From Annual Review of Pharmacology and Toxicology (2004), 44, 167-193. | Language: English, Database: CAPLUS  
A review. **Botulinum toxin** is a uniquely potent substance synthesized by the organisms *Clostridium botulinum*, *Clostridium baratii*, and *Clostridium butyricum*. This **toxin**, which acts preferentially on peripheral cholinergic nerve endings to block acetylcholine release, is both an agent that causes disease (i.e., botulism) as well as an agent that can be used to treat disease (e.g., dystonia). The ability of **botulinum toxin** to produce its effects is largely dependent on its ability to penetrate cellular and intracellular membranes. Thus, **toxin** that is ingested or inhaled can bind to epithelial... ~234




限定文献类型为“Review”，  
快速查找综述

# 肉毒毒素（botulinum toxin）

- 1、肉毒毒素（botulinum toxin）是由厌氧细菌、肉毒杆菌等产生的含有高分子蛋白的神经毒素
- 2、目前发现肉毒毒素有7种类型，分别是A,B,C1,D,E,F,G型
- 3、肉毒毒素能有效地阻断胆碱能神经介质——乙酰胆碱的释放

Research Topic "botulinum toxin" > references (14636) > refine "Review" (2681) > Botulinum toxins: Mechanisms o...

REFERENCE DETAIL ⓘ

 Get Substances  Get Related Citations  Get Full Text

[Return](#) [Previous](#) | [Next](#)

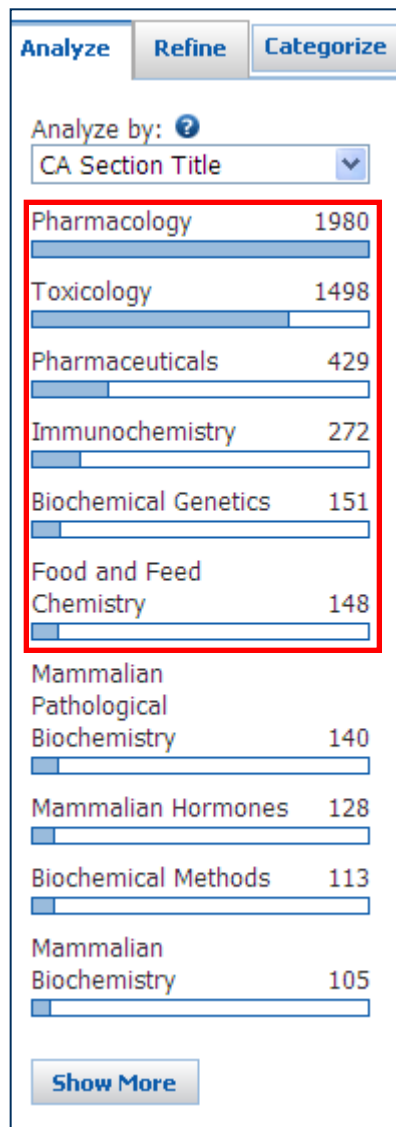
## 7. Botulinum toxins: Mechanisms of action, antinociception and clinical applications

By: Wheeler, Anthony; Smith, Howard S.

A review. Botulinum toxin (BoNT) is a potent neurotoxin that is produced by the gram-pos., spore-forming, anaerobic bacterium, Clostridium botulinum. There are 7 known immunol. distinct serotypes of BoNT: types A, B, C1, D, E, F, and G. Clostridium neurotoxins are produced as a single inactive polypeptide chain of 150 kDa, which is cleaved by tissue proteinases into an active di-chain mol.: a heavy chain (H) of ~100 kDa and a light chain (L) of ~50 kDa held together by a single disulfide bond. Each serotype demonstrates its own varied mechanisms of action and duration of effect. The heavy chain of each BoNT serotype binds to its specific neuronal ecto-acceptor, whereby, membrane translocation and endocytosis by intracellular synaptic vesicles occurs. The light chain acts to cleave SNAP-25, which inhibits synaptic exocytosis, and therefore, disables neural transmission. The action of BoNT to block the release of acetylcholine botulinum toxin at the neuromuscular junction is best understood, however, most experts acknowledge that this effect alone appears inadequate to explain the entirety of the neurotoxin's apparent analgesic activity. Consequently, scientific and clin. evidence has emerged that suggests multiple antinociceptive mechanisms for botulinum toxins in a variety of painful disorders, including: chronic musculoskeletal, neurop., pelvic, perineal, osteoarticular, and some headache conditions.

肉毒毒素的作用机制、镇痛机制和临床应用

## 查看botulinum toxin的主要研究领域



通过分析功能(CA Section Title)

可知肉毒毒素的主要研究领域:

药理(Pharmacology)

毒理( Toxicology )

药物( Pharmaceuticals )

免疫化学( Immunochemistry )

食品和饲料( Food and Feed Chemistry )

# 获取botulinum toxin毒理学研究方面的文献

REFERENCES ?

Analyze Refine Categorize

Analyze by: ?

CA Section Title

Pharmacology	1980
<b>Toxicology</b>	<b>1498</b>
Pharmaceuticals	429
Immunochemistry	272
Biochemical Genetics	151
Food and Feed Chemistry	148
Mammalian Pathological Biochemistry	140
Mammalian Hormones	128
Biochemical Methods	113
Mammalian Biochemistry	105

Show More

Sort by: Citing References

Answers per Page [20] Display: [ ]

0 of 14636 References Selected

Page: 1 of 75

- 1. Tetanus and botulinum-B neurotoxins block neurotransmitter release by proteolytic cleavage of synaptobrevin** Full Text

By Schiavo, ...  
From Nature  
Here the protease cleaved synaptobrevin-2 isoform is not

**破伤风和肉毒神经毒素B通过突触的蛋白裂解  
阻断神经递质的释放**

~712
- 2. Synaptic vesicle membrane fusion complex: action of clostridial neurotoxins on assembly** Full Text

By Hayashi, Tetsuya; McMahon, Harvey; Yamasaki, Shinji; Binz, Thomas; Hata, Yutaka; Suedhof, Thomas C.; Niemann, Heiner  
From EMBO Journal (1994), 13(21), 5051-61. | Language: English, Database: CAPLUS

Here we show that in binary reactions synaptobrevin binds weakly to bind SNAP-25 and syntaxin, and synaptosomal-assocd. protein of 25 kDa (SNAP-25) binds to syntaxin. In the presence of all three components, a dramatic increase in the interaction strengths occurs and a stable sodium dodecyl sulfate-resistant complex forms. Mapping of the interacting sequences reveals that complex formation correlates with the presence of predicted  $\alpha$ -helical structures, suggesting that membrane fusion involves intermol. interactions via coiled-coil structures. Most toxins only attack the free, and not the co...

~470
- 3. Botulinum neurotoxin A selectively cleaves the synaptic protein SNAP-25** Full Text

By Blasi, Juan; Chapman, Edwin R.; Link, Egenhard; Binz, Thomas; Yamasaki, Shinji; Pietro De Camilli; Sudhof, Thomas C.; Niemann, Heiner; Jahn, Reinhard  
From Nature (London, United Kingdom) (1993), 365(6442), 160-3. | Language: English, Database: CAPLUS

Neurotra...  
tetanus...  
inhibitor...  
Furthermore, isolated of recombinant C chain of BoNT/A cleaves SNAP-25 in vitro. Cleavag...

**肉毒毒素A选择性裂解突触相关蛋白SNAP-25**

~452
- 4. Botulinum toxin as a biological weapon: Medical and public health management** Full Text

By Arnon, Stephen S.; Schechter, Robert; Inglesby, Thomas V.; Henderson, Donald A.; Bartlett, John G.; Ascher, Michael S.; Eitzen, Edward; Fine, Anne D.; Hauer, Jerome; Layton, Marcelle; et al  
From JAMA, ...

A review...  
private...  
(1960-Mar. 1999) and their professional collections for literature concerning use of botulinum toxi...

**肉毒毒素作为生物武器：医学与公共健康防治**

and public health...  
government, and...  
INE and MEDLINE

~435



# 点击文章标题，获得更多文献信息

## 肉毒毒素A选择性裂解突触相关蛋白SNAP-25

### 3. Botulinum neurotoxin A selectively cleaves the synaptic protein SNAP-25

By: Blasi, Juan; Chapman, Edwin R.; Link, Egenhard; Binz, Thomas; Yamasaki, Shinji; Pietro De Camilli; Sudhof, Thomas C.; Niemann, Heiner; Jahn, Reinhard

Neurotransmitter release is potently blocked by a group of structurally related toxin proteins produced by Clostridium botulinum. Botulinum neurotoxin type B (BoNT/B) and tetanus toxin (TeTx) are zinc-dependent proteases that specifically cleave synaptobrevin (VAMP), a membrane protein of synaptic vesicles. Here, the authors report that inhibition of transmitter release from synaptosomes caused by botulinum neurotoxin A (BoNT/A) is assocd. with the selective proteolysis of the synaptic protein SNAP-25. Furthermore, isolated or recombinant L chain of BoNT/A cleaves SNAP-25 in vitro. Cleavage occurred near the carboxy-terminus and was sensitive to divalent cation chelators. In addn., a glutamate residue in the BoNT/AI chain, presumably required to stabilize a water mol. in the zinc-contg. catalytic center, was required for proteolytic activity. These findings demonstrate that BoNT/A acts as a zinc-dependent protease that selectively cleaves SNAP-25. Thus, a second component of the putative fusion complex mediating synaptic vesicle exocytosis is targeted by a clostridial neurotoxin.

#### Indexing

Toxicology (Section4-5)

#### Concepts

Proteins, specific or class

SNAP-25, of synaptosome, botulin A cleavage of

Biological study

Synapse

synaptosome, protein SNAP-25 of, botulin A cleavage of

#### Supplementary Terms

botulin A synapse protein SNAP25

#### Substances

93384-43-1 Botulin A

synaptic protein SNAP-25 cleavage by

Biological study

文献中出现的主要物质

文献中出现的重要概念，  
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点击CAS登记号，获得  
物质的详细信息



# 关于Botulin A的全面的物质信息

Research Topic "botulinum" > references (25063) > refine "1993-" (19679) > Botulinum neurotoxin A selecti... > 93384-43-1 > **93384-43-1**

[SUBSTANCE DETAIL](#)
[Get References](#)
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[Get Regulatory Information](#)

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获取管制信息

<p><b>CAS Registry Number:</b> 93384-43-1</p> <p>Unspecified</p> <p><b>Botulin A</b></p> <p>AGN 191622; AbobotulinumtoxinA; Azzalure; BoNT/A LC metalloprotease; Bocouture; Botulin neurotoxin A; Botulin toxin A; Botulinum toxin type A; Botulinum neurotoxin A; Botulinum neurotoxin A light chain protease; Botulinum neurotoxin A protease; Botulinum neurotoxin serotype A; Botulinum neurotoxin serotype A light chain; Botulinum toxin; Botulinum toxin A; Botulinum toxin type A; CBTX-A; CNT 52120; Dysport; EvabotulinumtoxinA; IncobotulinumtoxinA; NT 201; NT 201 (toxin); Nc 224; Nc 270; Neuronox; Neurotoxin A light chain metalloprotease; Oculinum; Reloxin; Vistabel; Xeomin</p> <p>Manual Registration</p>	<p>Substance</p> <p>Image</p> <p>Cannot Be</p> <p>Displayed</p> <p>93384-43-1</p>
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**CAS 登记号，化学名，其他名字，与该物质有关的文献数目，该物质所在的文献类型**

**Source of Registration:** European Union (EU)

**~2,653 References**

**Document Types:** Book, Conference, Dissertation, Journal, Patent, Report

# 关于Botulin A的全面的物质信息

Bioactivity Indicators	生物活性	References
Anti-inflammatory agents (all) > Anti-inflammatory agents		53
Nervous system agents (all) >>> Analgesics		191
Neuromuscular agents > Muscle relaxants		123

Target Indicators	作用靶点	References
Calcitonin gene-related peptide (all) > Calcitonin gene-related peptide		13
Kinins (all) >>> Substance P		14
Receptors (all) > Capsaicin receptors		11
Receptors (all) >> SNARE proteins		10
Receptors (all) >> Synaptosome-associated proteins		28
Substance P		14
Transport proteins (all) >>>> Capsaicin receptors		11

Experimental Properties: Biological Spectra				实验数据
<b>Biological Properties</b>				
LD50	Value	Condition	Note	Top
	See full text		(2)CAS	
<b>Spectra Properties</b>				
Circular Dichroism Spectrum	Value	Condition	Note	Top
	See full text		(1)CAS	
Emission/Luminescence Spectrum	Value	Condition	Note	
	See full text		(1)CAS	
Mass Spectrum	Value	Condition	Note	
	See full text		(3)CAS	
UV and Visible Absorption Spectrum	Value	Condition	Note	
	See full text		(1)CAS	

(1) Galloux, Marie; Journal of Biological Chemistry 2008, V283(41), P27668-27676 CAPLUS [Q](#)

(2) Sharma, Shashi K.; Applied and Environmental Microbiology 2006, V72(2), P1231-1238 CAPLUS [Q](#)

(3) Kull, Skadi; Analytical Chemistry (Washington, DC, United States) 2010, V82(7), P2916-2924 CAPLUS [Q](#)

数据来源的原文链接

# 获得Botulinum toxin最新的药理研究结果

REFERENCES

Get Substances Get Reactions Get Related Citations Get Full Text Tools

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按照出版年份排序

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Answers per Page [20] Display: [ ] [ ] [ ]

Analyze by: CA Section Title

Pharmacology 1980

Toxicology 1498

Pharmaceuticals 429

Immunochemistry 272

Biochemical Genetics 151

Food and Feed Chemistry 148

Mammalian Pathological Biochemistry 140

Mammalian Hormones 128

Biochemical Methods 113

1. 4-Amino-7-chloroquinolines: Probing Ligand Efficiency Provides Botulinum Neurotoxin Serotype A Light Chain Inhibitors with Significant Antiprotozoal Activity

By Opsenica, Igor M.; Tot, Miklos; Gomba, Laura; Nuss, Jonathan E.; Sciotti, Richard J.; Bavari, Sina; Burnett, James C.; Solaja, Bogdan A.  
From Journal of Medicinal Chemistry (2013), 56(14), 5860-5871. | Language: English, Database: CAPLUS

Structurally simplified analogs of dual antimalarial and botulinum neurotoxin serotype A light chain (BoNT/A LC) inhibitor bis-aminoquinoline (1) were prepd. New compds. were designed to improve ligand efficiency while maintaining or exceeding the inhibitory potency of 1. Three of the new compds. are more active than 1 against both indications. Metabolically, the new inhibitors are relatively stable and nontoxic. 12, 14, and 15 are more potent BoNT/A LC inhibitors than 1. Addnl., 15 has excellent in vitro antimalarial efficacy, with IC<sub>50</sub> values ranging from 4.45 to 12.11 nM against five PL...

2. A double-blind, randomised, crossover trial of two botulinum toxin type A in patients with spasticity

By Guarany, Fabio Coelho; Picon, Paulo Dornelles; Guarany, Nicole Ruas; Cardoso dos Santos, Antonio; Chiella, Bianca Paula Mentz; Barone, Carolina Rocha; Fendt, Lucia Costa Cabral; Schestatsky, Pedro  
From PLoS One (2013), 8(2), e56479. | Language: English, Database: CAPLUS

Background: Botulinum toxin type A may have the same effect as type A of our study was to compare the efficacy of a randomized, crossover study consisting of 57 patients with clinically meaningful spasticity. The patients ...

3. A new botulinum toxin potentially bioequivalent to OnabotulinumtoxinA: are there any differences at all?

By Yang, Gi-Hyeok; Jung, Hyun Ho  
From Dermatologic Surgery (2013), 39(1, Part 2), 165-170. | Language: English, Database: CAPLUS

A review on scientific evidence with regard to the comparability of onabotulinumtoxinA and neu-BoNT/A.

# 获得Botulinum toxin最新的检测方法

REFERENCES ?

Analyze Refine Categorize

Refine by: ?

- Research Topic
- Author
- Company Name
- Document Type
- Publication Year
- Language
- Database

Research Topic

detection

Examples:

*The effect of antibiotic residues on dairy products*

*Photocyanation of aromatic compounds*

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Sort by: Publication Year

Answers per Page [20] Display: [ ] [ ] [ ]

0 of 1222 References Selected

Page: 1 of 62

1. A Microscale Neuron and Schwann Cell Coculture Model for Increasing Detection Sensitivity of Botulinum Neurotoxin Type A

By Hong, Won S.; Young, Edmond W. K.; Teo, William H.; Johnson, Eric A.; Beebe, David L.

From Toxicon (2013), 68, 110-111. | Language: English, Database: CAPLUS

Botulinum neurotoxin (BoNT) assay variability is a major concern in the detection of BoNT. Furthermore, the assay may also be used in a column-based format for use in...

**用于提高肉毒毒素A检测灵敏度的一个微量神经元和神经鞘细胞联合培养模型**
2. ALISSA (a large immunosorbent surface area) assay for detection of botulinum neurotoxins and anthrax toxins

By Kalkum, Markus; Bagramyan, Karine

From U.S. Pat. Appl. Publ. (2013), US 20130065259 A1 20130314. | Language: English, Database: CAPLUS

Provided and ant substrat BoNT. Furthermore, the assay may also be used in a column-based format for use in...

**ASLISSA分析用于检测肉毒毒素和炭疽霉菌**

toxins, such as botulinum neurotoxins (BoNTs) via conversion of a fluorogenic or luminescent and peptides that are resistant to cleavage by
3. An enzyme-linked immunosorbent assay for detection of botulinum toxin antibodies

By Dressler, D.; Gessler, F.; Tackl, P.; Bigalke, H.

From Toxicon (2013), 68, 110-111. | Language: English, Database: CAPLUS

进一步限定研究主题  
为“detection”

# 查看Botulinum toxin的应用领域-Categorize

**Categorize** ?

1. Select a heading and category.      2. Select index terms of interest.

Category Heading	Category	Index Terms	Selected Terms
All	Substances in technology (2233)	Page: 1 of 4 Select All   Deselect All	Click 'x' to remove the category from 'Selected Terms'
Physical chemistry	Processes & apparatus (447)	<input type="checkbox"/> Surfactants 70	Technology > Materials & products (1 Terms)  表面活性剂  化妆品  抗氧化剂  稳定剂
Biotechnology	Metallurgy (362)	<input type="checkbox"/> Antibacterial agents 59	
Genetics & protein chemistry	<b>Materials &amp; products (335)</b>	<input checked="" type="checkbox"/> Cosmetics 57	
Biology	Imaging & recording (65)	<input type="checkbox"/> Buffers 53	
General chemistry	Formed, removed, & other substances (141)	<input type="checkbox"/> Cosmetics, wrinkle-preventing 47	
Synthetic chemistry	Ceramics (19)	<input type="checkbox"/> Antioxidants 43	
Analytical chemistry	Construction (17)	<input type="checkbox"/> Oxygen 42	
<b>Technology</b>	Power & fuel topics (6)	<input type="checkbox"/> Culture media 38	
Polymer chemistry		<input type="checkbox"/> Crosslinking agents 36	
Environmental chemistry		<input type="checkbox"/> Stabilizing agents 33	
Catalysis		<input type="checkbox"/> Fluorescent dyes 32	
		<input type="checkbox"/> Fungicides 30	
		<input type="checkbox"/> Liposomes 30	
		<input type="checkbox"/> Preservatives 29	
		<input type="checkbox"/> Fluorescent substances 28	

Technology > Materials & products > 1 Index Term(s) Selected













OK   Cancel

# 肉毒毒素应用于化妆品领域的文献

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Sort by: Citing References | Answers per Page [20] | Display: [ ] [ ] [ ]

0 of 57 References Selected | Page: 1 of 3

- 1. Efficacy and safety of 3- and 5-injection patterns (30 and 50 U) of botulinum toxin A (Dysport) for the treatment of wrinkles in the glabella and the central forehead region**    ~15   
By Rzany, Berthold; Ascher, Benjamin; Fratila, Alina; Monheit, Gary D.; Talarico, Sergio; Sterry, Wolfram; The GLADYS Study Group  
From Archives of Dermatology  
Objective: To investigate the efficacy and safety of botulinum toxin A (Botox, Allergan, Ettligen, Germany), in the treatment of glabellar and central forehead wrinkles. Design: multicenter, double-blind, placebo-controlled, randomized, 12-wk trial. Setting: Twenty-three German dermatol. centers. Patients: Two hundred twenty-one patients with moderate or severe glabellar wrinkles when frowning maximally. Intervention: Centers were randomly assigned to the 3-injection site pattern (3 injections of 10 U of botuli...
- 2. Microneedle apparatus used for marking skin and for dispensing semi-permanent subcutaneous makeup**    ~14   
By Yuzhakov, Vadim Vladimirovich; Gartstein, Vladimir; Owens, Grover David  
From PCT Int. Appl. (2001), WO 2001091846 A2 20011206. | Language: English, Database: CAPLUS  
An array of microneedles is provided to apply semi-permanent or permanent markings to skin, or to apply semi-permanent s.c. makeup or other cosmetic compds. to skin. The microneedles can apply identifications or other tattoo-like graphics, and will not enter into the dermal layer of the skin so that the application procedure is painless. The markings can be made permanent or semi-permanent, and can be applied with monochrome or multi-color inks, or even inks that are not visible at human eye wavelengths. The preferred inks contain particles of a certain min. size that will not diffuse too f...
- 3. Growing old disgracefully: The cosmetic use of botulinum toxin**    ~9   
By Bottrill, Krys  
From ATLA, Alternatives to Laboratory Animals (2003), 31(4), 381-391. | Language: English, Database: CAPLUS  
A review. The explosive growth of the cosmetic use of botulinum toxin A (Botox) has had an impact on the no. of animals used in the potency testing of this product. The test use of animals has increased, increasing paralysis until the occurrence of death. The enthusiastic adoption by the general public of the use of Botox for the treatment of wrinkles, paradoxically taken place against a background of moves to stop animal testing of cosmetics and cosmetic ingredients. There appears to be a dearth



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Fax: 021-64155180

**iGroup广州办公室**  
Tel: 020-83274076  
Fax: 020-83274078

**E-mail: [scifinder@igroup.com.cn](mailto:scifinder@igroup.com.cn)**