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liposomal doxorubicin

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Title: Coumarin compounds and their use for treating cancer

Abstract: Coumarin compounds of formula (I):
wherein R₁, R₂, R₃, R₄, R₅, R₆, and X are defined herein. Also disclosed is a method for treating cancer with coumarin compounds

US8026267B2 Rozenzweig SOPHERION 2011-09-27 USG US2010880037A
Marcel THERAPEUTICS LLC

Title: Non-pegylated liposomal doxorubicin triple combination therapy

Abstract: The present invention relates to a method for treating metastatic breast cancer in an individual comprising administering to an individual in need thereof a dosing regimen which comprises administering to the individual nonpegylated liposomal doxorubicin, a taxane and a HER2/neu receptor antagonist, wherein the individual previously has been administered an anthracycline

US8026246B2 Claiborne MILLENNIUM 2011-09-27 USG US2007985277A
Christopher PHARMACEUTICALS
F. INC

Title: Aurora kinase inhibitors for inhibiting mitotic progression

Abstract: The present invention relates to compounds and methods for the treatment of cancer. In particular, the invention

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DWPI Title ?
Treating metastatic breast cancer (previously administered with anthracycline) comprises administering dosing regimen containing e.g. non-polyethylene glycolated **liposomal doxorubicin**, taxane and neu receptor antagonist

Original Title ?
Non-pegylated **liposomal doxorubicin** triple combination therapy

Abstract ?
The present invention relates to a method for treating metastatic breast cancer in an individual comprising administering to an individual in need thereof a dosing regimen which comprises administering to the individual nonpegylated **liposomal doxorubicin**, a taxane and a HER2/neu receptor antagonist, wherein the individual previously has been administered an anthracycline.

First Claim ?
1. A method for treating metastatic breast cancer in an individual previously treated with an anthracycline comprising administering to an individual in need thereof a dosing regimen which comprises at least one 3-week long treatment cycle, and wherein said individual is administered nonpegylated **liposomal doxorubicin** at a dose level of from 30 mg/m² to 75 mg/m² on day 1 of each treatment cycle,

Images

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FIG. 1

1 2

Record 2 of 190

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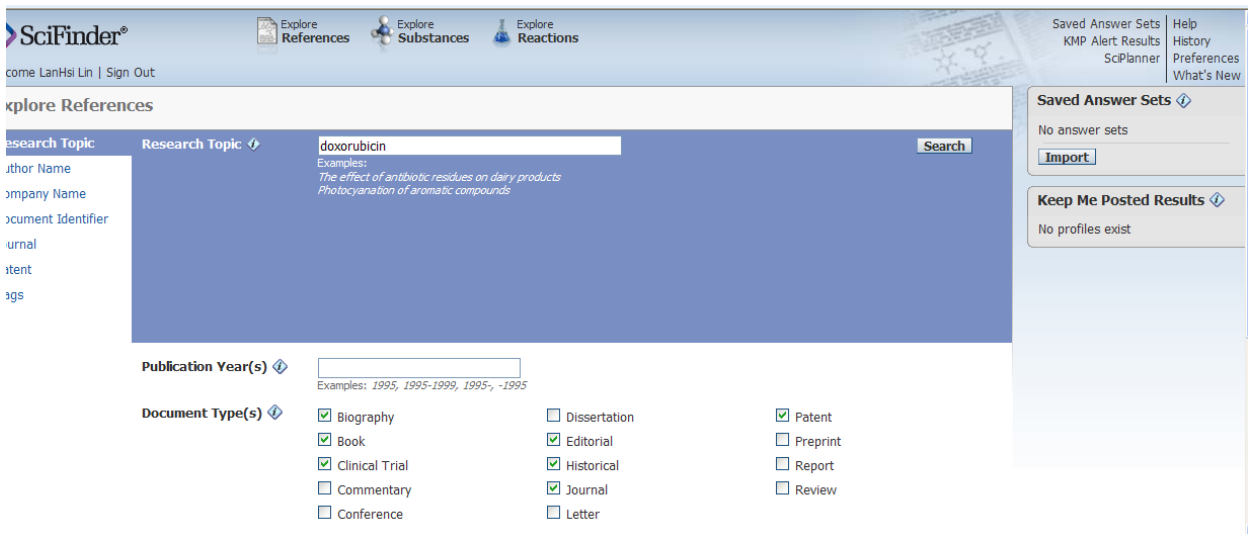
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● 使用心得：

因為不知道自己會在什麼情況下用到這個資料庫，於是我假想我是一個藥廠研發人員，google東洋藥廠+專利，發現他們在藥物劑行微脂體方面的研究還滿有名的，甚至在 2009 年還跟荷蘭to-BBB製藥公司共同開發腦瘤標靶型liposomal doxorubicin藥物，所以我選定這個題目作為我的主題！身為一個研究人員，在研發藥品之前應該要設想：有沒有人已經做過了？其他競爭公司都在做些什麼？所以當我查到這筆patent number為US8026267(B2) 資料時，發現他的申請時間是在 2011，original title是Non-pegylated liposomal doxorubicin triple combination therapy，而且inventor都是美國人。所以我又重新按照時間順序編排資料，發現這麼多年來早已有非常多人在研究微脂體劑型，也應用在各種病症上，在 2009 年好像沒有看到發明人是中文名字且用在腦癌的資料，因為許多資料分析的功能不能使用，所以我也不知該如何分析出這一筆資料。不過有趣的是同樣是微脂體，但是用在不同的病症或是包不同的藥，就可以申請一個新的專利，讓我不禁想，那我需要付錢給發明微脂體的人嗎？即使是已經有人發現的藥品成分和已經發明的劑型，但只要我把兩著結合在一起，也可以稱做發明新藥申請專利，賺大錢，好像還不錯。至於這個THOMSON Innovation資料檢索平台的操作過程心得，我覺得有看到微脂體的結構&附圖甚至是一種劑型的分析資料，對一個搜尋者來說很簡顯易懂，只是剛我好查到的這筆沒有多方位結構比較，若我是這家公司的老闆，我會想研發 3D的彩色立體圖示，像現在很多電子書都可以旋轉圖形，對於理解這項發明的外觀非常有幫助;然而美中不足的是，因為沒有帳號而無法分析資料，是值得改善的地方！

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References 60880 References 3 Selected

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1. **Biocompatible Poly(2-hydroxyethyl methacrylate)-b-poly(L-histidine) Hybrid Materials for pH-Sensitive Intracellular Anticancer Drug Delivery** [Full Text](#)
 By Johnson, Renjith P.; Jeong, Young-Il; Choi, Eunji; Chung, Chung-Wook; Kang, Dae Hwan; Oh, Sae-Ock; Suh, Hongsuk; Kim, Il
 From Advanced Functional Materials, Ahead of Print. | Language: English, Database: CAPLUS
 A series of synthetic polymer bioconjugate hybrid materials consisting of poly(2-hydroxyethyl methacrylate) (p(HEMA)) and poly(L-histidine) (p(His)) are synthesized by combining atom transfer radical polymn. of HEMA with ring opening polymn. of benzyl-N-carboxy-L-histidine anhydride. The resulting biocompatible and membranolytic p(HEMA)25-b-p(His)n (n = 15, 25, 35, and 45) polymers are investigated for their use as pH-sensitive drug-carrier for tumor targeting. Doxorubicin (Dox) is encapsulated in nanosized micelles fabricated by a self-assembly process and delivered under different pH conditions. Micelle size is characterized by dynamic light scattering (DLS) and transmission electron microscopy (TEM) observations. Dox release is investigated according to pH, demonstrating the release is sensitive to pH. Antitumor activity of the released Dox is assessed using the HCT 116 human colon carcinoma cell line. Dox released from the p(HEMA)-b-p(His) micelles remains biol. active and has the dose-dependent capability to kill cancer cells at acidic pH. The p(HEMA)-b-p(His) hybrid materials are capable of self-assembling into nanomicelles and effectively encapsulating the chemotherapeutic agent Dox, which allows them to serve as suitable carriers of drug mols. for tumor targeting.

2. **Effect of pten on PI3K/AKT pass way in gastric carcinoma cell line BGC823** [Full Text](#)
 By Liu, Jin; Lu, Xiaohong
 From Zhongguo Yiyuan Yaoxue Zazhi (2011), 31(21), 1784-1786. | Language: Chinese, Database: CAPLUS
 Whether the pten gene transfection could inhibit the PI3K/AKT pass way was studied. The plasmids including pEAK8 and pEAK8-pten were sep. transfected into in vitro cultured gastric cancer cell line BGC823 that was interfered by chem. therapy drugs: etoposide and doxorubicin hydrochloride. The expressions of target genes were detected by RT-PCR. The AKT kinase was detected using the assay kit. The expression of pten was verified in group transfected with pEAK8-pten plasmid, but was not verified in group transfected with pEAK8 plasmid and control group. The inhibition of AKT kinase activity was measured by immunoblotting for the phosphorylated-GSK-3α/β. Pten gene transfection could suppress the in vitro growth of gastric cancer cells and enhance the effects of chem. drugs. The effect might depend on its phosphatase activity to reduce the AKT kinase and blocking the cell cycle.

3. **Elastin-like polypeptide modified liposomes for enhancing cellular uptake into tumor cells** [Full Text](#)
 By Cheol, ...
 Language: English, Database: CAPLUS

Analysis Refine

Sample Analysis: [Sample Analysis](#)

Publication Year

2010
2011
2009
2007
2008
2006
2005
2004
2002
2001

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4. 進去之後有六萬多筆資料，我不知該如何篩選，不過由右邊的 Analysis 我可以分析資料的 Publication year, Author name, Company-Organization,

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-poly(L-histidine) Hybrid Materials for pH-Sensitive Intracellular Anticancer Drug Delivery

Vook; Kang, Dae Hwan; Oh, Sae-Ock; Suh, Hongsuk; Kim, Il
 English, Database: CAPLUS
 A series of synthetic polymer bioconjugate hybrid materials consisting of poly(2-hydroxyethyl methacrylate) (p(HEMA)) and poly(L-histidine) (p(His)) are synthesized by combining atom transfer radical polymn. of HEMA with ring opening polymn. of benzyl-N-carboxy-L-histidine anhydride. The resulting biocompatible and membranolytic p(HEMA)25-b-p(His)n (n = 15, 25, 35, and 45) polymers are investigated for their use as pH-sensitive drug-carrier for tumor targeting. Doxorubicin (Dox) is encapsulated in nanosized micelles fabricated by a self-assembly process and delivered under different pH conditions. Micelle size is characterized by dynamic light scattering (DLS) and transmission electron microscopy (TEM) observations. Dox release is investigated according to pH. Antitumor activity of the released Dox is assessed using the HCT 116 human colon carcinoma cell line. Dox released from the p(HEMA)-b-p(His) micelles remains biol. active and has the dose-dependent capability to kill cancer cells at acidic pH. The p(HEMA)-b-p(His) hybrid materials are capable of self-assembling into nanomicelles and effectively encapsulating the chemotherapeutic agent Dox, which allows them to serve as suitable carriers of drug mols. for tumor targeting.

gastric carcinoma cell line BGC823 [Full Text](#)

Language: Chinese, Database: CAPLUS
 Whether the pten gene transfection could inhibit the PI3K/AKT pass way was studied. The plasmids including pEAK8 and pEAK8-pten were sep. transfected into in vitro cultured gastric cancer cell line BGC823 that was interfered by chem. therapy drugs: etoposide and doxorubicin hydrochloride. The expressions of target genes were detected by RT-PCR. The AKT kinase was detected using the assay kit. The expression of pten was verified in group transfected with pEAK8-pten plasmid, but was not verified in group transfected with pEAK8 plasmid and control group. The inhibition of AKT kinase activity was measured by immunoblotting for the phosphorylated-GSK-3α/β. Pten gene transfection could suppress the in vitro growth of gastric cancer cells and enhance the effects of chem. drugs. The effect might depend on its phosphatase activity to reduce the AKT kinase and blocking the cell cycle.

enhancing cellular uptake into tumor cells [Full Text](#)

By Cheol, ...
 Language: English, Database: CAPLUS
 A series of synthetic polymer bioconjugate hybrid materials consisting of poly(2-hydroxyethyl methacrylate) (p(HEMA)) and poly(L-histidine) (p(His)) are synthesized by combining atom transfer radical polymn. of HEMA with ring opening polymn. of benzyl-N-carboxy-L-histidine anhydride. The resulting biocompatible and membranolytic p(HEMA)25-b-p(His)n (n = 15, 25, 35, and 45) polymers are investigated for their use as pH-sensitive drug-carrier for tumor targeting. Doxorubicin (Dox) is encapsulated in nanosized micelles fabricated by a self-assembly process and delivered under different pH conditions. Micelle size is characterized by dynamic light scattering (DLS) and transmission electron microscopy (TEM) observations. Dox release is investigated according to pH. Antitumor activity of the released Dox is assessed using the HCT 116 human colon carcinoma cell line. Dox released from the p(HEMA)-b-p(His) micelles remains biol. active and has the dose-dependent capability to kill cancer cells at acidic pH. The p(HEMA)-b-p(His) hybrid materials are capable of self-assembling into nanomicelles and effectively encapsulating the chemotherapeutic agent Dox, which allows them to serve as suitable carriers of drug mols. for tumor targeting.

Journal Name

PCT Int. Appl.
Cancer
Cancer Research
British Journal of Cancer
Cancer chemotherapy and pharmacology
Anticancer research
Journal of clinical oncology : official journal of the American Society of Clinical Oncology
U.S. Pat. Appl. Publ.
Biochemical Pharmacology
Cancer Treatment Reports

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More detailed analysis based on CAS

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Poly(L-histidine) Hybrid Materials for pH-Sensitive Intracellular Anticancer Drug Delivery

Joung; Kang, Dae Hwan; Oh, Sae Gook; Suh, Hong Suk; Kim, Il
 Database: CAPLUS

Materials consisting of poly(2-hydroxyethyl methacrylate) (p(HEMA)) and poly(L-histidine) (p(His)) are 1. of HEMA with ring opening polymn. of benzyl-L-carboxy-L-histidine anhydride. The resulting (n = 15, 25, 35, and 45) polymers are investigated for their use as pH-sensitive drug-carrier for organized micelles fabricated by a self-assembly process and delivered under different pH conditions. Ig (DLS) and transmission electron microscopy (TEM) observations. Dox release is investigated) pH. Antitumor activity of the released Dox is assessed using the HCT 116 human colon carcinoma s remains biol. active and has the dose-dependent capability to kill cancer cells at acidic pH. The p sembling into nanomicelles and effectively encapsulating the chemotherapeutic agent Dox, which r tumor targeting.

HCT 116

Cervix Cell Line BGC823 Full Text

Language: Chinese, Database: CAPLUS

/AKT pass way was studied. The plasmids including pEAK8 and pEAK8-pten were sep. transfected was interfered by chem. therapy drugs: etoposide and doxorubicin hydrochloride. The expressions se was detected using the assay kit. The expression of pten was verified in group transfected with

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1. Mapping the literature: role of trabectedin as a new chemotherapy option in advanced pretreated soft tissue sarcoma

Full Text

By Le Cesne, A.; Domont, J.; Coiffi, A.; Bonvalot, S.; Terrier, P.; Ray-Coquard, I.; Alfaro, V.; Lebedinsky, C.; Santabarbara, P.; Blay, J. Y.

From Drugs of Today (2009), 45(5), 403-421. | Language: English, Database: CAPLUS

This bibliog. review evaluated phase II clin. trials aimed at the identification of antitumor activity of single agents in soft tissue sarcoma (STS) after failure of std.-of-care therapy including anthracyclines and ifosfamide. A total of 63 articles (on anthracyclines, ifosfamide, trabectedin and 27 investigational agents) were included (data from 1979 to 2008). Trabectedin is the most extensively studied agent in patients with STS after failure of anthracyclines and ifosfamide (457 patients), followed by ifosfamide (412), cisplatin (144), temozolomide (137), docetaxel (114), gemcitabine (112), etoposide (95) and **doxorubicin** (59). Dacarbazine and the remaining investigational agents have usually been tested in 50 or fewer patients, with vastly neg. results not warranting further investigation. Methodol. limitations are identified in the majority of the reviewed phase II studies, including small sample size, single-institution studies, lack of independent review of the antitumor responses and inadequate description of previous therapies/agents. However, all trabectedin studies fulfilled these methodol. characteristics relevant for a phase II trial. A phase II randomized trial confirmed the results of 3 prior nonrandomized studies and, therefore, trabectedin is currently considered an important new option to control advanced sarcomas in patients with STS following failure of all conventional treatments.

~1

2. Inhibition of serine/threonine phosphatase PP2A enhances cancer chemotherapy by blocking DNA damage induced defense mechanisms [Erratum to document cited in CA151:304480]

Full Text

By Lu, Jie; Kovach, John S.; Johnson, Francis; Chiang, Jeffrey; Hodes, Richard; Lonser, Russell; Zhuang, Zhengping

From Proceedings of the National Academy of Sciences of the United States of America, Early Edition (2009), (Aug. 13 2009), 14734. | Language: English, Database: CAPLUS

The authors note that compd. LB-1.2 should have been designated as LB-102.

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Mapping the literature: role of trabectedin as a new chemotherapy option in advanced pretreated soft tissue sarcoma [Full Text](#)

By Le Cesne, A.; Domont, J.; Gioffrè, A.; Bonvalot, S.; Terrier, P.; Ray-Coquard, I.; Alfaro, V.; Lebedinsky, C.; Santabarbara, P.; Blay, J. Y.

From Drugs of Today (2009), 45(6), 403-421. | Language: English, Database: CAPLUS

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2

Inhibition of serine/threonine phosphatase PP2A enhances cancer chemotherapy by blocking DNA damage induced defense mechanisms [Erratum to document cited in CA151:3044480] [Full Text](#)

By Lu, Jie; Kovach, John S.; Johnson, Francis; Chiang, Jeffrey; Hodes, Richard; Lonser, Russell; Zhuang, Zhengping

From Proceedings of the National Academy of Sciences of the United States of America, Early Edition (2009), (Aug. 13 2009), 14734. | Language: English, Database: CAPLUS

The authors note that compd. LB-1.2 should have been designated as LB-102.

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Pharmaceuticals 357

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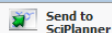
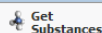
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Reference Detail

[Link](#) [Save](#) [Print](#) [Export](#)357 references with the CA Section Titles **Pharmaceuticals** are displayed[Return](#)[Return](#)[Previous](#) | [Next](#)

131. PEGylated PLGA nanoparticles for the improved delivery of doxorubicin

By: Park, Jason; Fong, Peter M.; Lu, Jing; Russell, Kerry S.; Booth, Carmen J.; Saltzman, W. Mark; Fahmy, Tarek M.

The authors hypothesize that the efficacy of **doxorubicin** (DOX) can be maximized and dose-limiting cardiotoxicity minimized by controlled release from PEGylated nanoparticles. To test this hypothesis, a unique surface modification technique was used to create PEGylated poly(lactic-co-glycolic acid) (PLGA) nanoparticles encapsulating DOX. An avidin-biotin coupling system was used to control poly(ethylene glycol) conjugation to the surface of PLGA nanoparticles, of diam. ~130 nm, loaded with DOX to 5% (wt/wt). Encapsulation in nanoparticles did not compromise the efficacy of DOX; drug-loaded nanoparticles were found to be at least as potent as free DOX against A20 murine B-cell lymphoma cells in culture and of comparable efficacy against s.c. implanted tumors. Cardiotoxicity in mice as measured by echocardiog., serum creatine phosphokinase (CPK), and histopathol. was reduced for DOX-loaded nanoparticles as compared with free DOX. Administration of 18 mg/kg of free DOX induced a sevenfold increase in CPK levels and significant decreases in left ventricular fractional shortening over control animals, whereas nanoparticle-encapsulated DOX produced none of these pathol. changes.

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Antitumor agents
Controlled-release drug delivery systems
PEGylation
Particle size
Pharmacokinetics
Surface treatment

Biocompatibility
Emulsions
Encapsulation
Particle shape
Pharmaceutical nanoparticles
Surface smoothness

PEGylated PLGA nanoparticles for improved delivery of **doxorubicin**

Polyoxyalkylenes

PEGylated PLGA nanoparticles for improved delivery of **doxorubicin**

Physical, engineering or chemical process; Therapeutic use; Biological study; Process; Uses

Avidins

conjugates with palmitic acid; PEGylated PLGA nanoparticles for improved delivery of **doxorubicin**

Physical, engineering or chemical process; Therapeutic use; Biological study; Process; Uses

Albumins

serum, bovine; PEGylated PLGA nanoparticles for improved delivery of **doxorubicin**

Biological study, unclassified; Biological study

Substances

34346-01-5 Poly(lactic-co-glycolic acid)

PEGylated PLGA nanoparticles for improved delivery of **doxorubicin**

Physical, engineering or chemical process; Pharmacokinetics; Properties; Therapeutic use; Biological study; Process; Uses

57-10-3D Palmitic acid, conjugates with avidin
25322-68-3D Peg, conjugates with biotinPEGylated PLGA nanoparticles for improved delivery of **doxorubicin**

Physical, engineering or chemical process; Therapeutic use; Biological study; Process; Uses

23214-92-8 **Doxorubicin**PEGylated PLGA nanoparticles for improved delivery of **doxorubicin**

Pharmacokinetics; Therapeutic use; Biological study; Uses

58-85-5 Biotin

conjugates with PEG; PEGylated PLGA nanoparticles for improved delivery of **doxorubicin**

Physical, engineering or chemical process; Therapeutic use; Biological study;

Process; Uses

Supplementary Terms

PEGylated PLGA nanoparticle targeted delivery **doxorubicin** cancer

Citations

Soppimath, K; J Control Release 2001, 70, 1
Anderson, J; Adv Drug Deliv Rev 1997, 28, 5
Okada, H; Crit Rev Ther Drug Carrier Syst 1995, 12, 1
Goren, D; Clin Cancer Res 2000, 6, 1949
Moghimi, S; Prog Lipid Res 2003, 42, 463
Faraesen, S; Pharm Res 2003, 20, 237
Gref, R; Colloids Surfaces B-Biointerfaces 2000, 18, 301
Li, Y; J Control Release 2001, 71, 203
Yeh, E; Circulation 2004, 109, 3122
Allen, T; Semin Oncol 2004, 31, 5
Biragyn, A; Current protocols in immunology 2001, 20.6.1
Fahmy, T; Biomaterials 2005, 26, 5727
Myers, C; Science 1977, 197, 165
Kang, Y; J Biol Chem 1996, 271, 12610
Teraoka, K; Eur J Heart Fail 2000, 2, 373
Jacoby, J; Proc Natl Acad Sci U S A 2003, 100, 12929
Davis, M; Nat Rev Drug Discov 2008, 7, 771
Johansen, P; Cancer Chemother Pharmacol 1981, 5, 267
Bouma, J; Pharm World Sci 1986, 8, 109
Allen, T; Clin Cancer Res 2005, 11, 3567
Shen, H; Immunology 2006, 117, 78
Lamprecht, A; J Control Release 2006, 112, 208
Soma, C; Pharm Res 1999, 16, 1710
Wong, H; J Control Release 2006, 116, 275

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Source

Nanomedicine (New York, NY, United States)
Volume 5
Issue 4
Pages 410-418
Journal
2009
CODEN: NANOBF
ISSN: 1549-9634
DOI: 10.1016/j.nano.2009.02.002

Company/Organization

Department of Biomedical
Engineering
Yale University
New Haven, CT, USA

Accession Number

2010:56377
CAN 152:223152
CAPLUS

Publisher

Elsevier

Language

English

7. 點選第 131 的資料: PEGylated PLGA nanoparticles for the improved delivery of doxorubicin

摘要如下:

By: Park, Jason; Fong, Peter M.; Lu, Jing; Russell, Kerry S.; Booth, Carmen J.; Saltzman, W. Mark; Fahmy, Tarek M.

The authors hypothesize that the efficacy of doxorubicin (DOX) can be maximized and dose-limiting cardiotoxicity minimized by controlled release from PEGylated nanoparticles. To test this hypothesis, a unique surface modification technique was used to create PEGylated poly(lactic-co-glycolic acid) (PLGA) nanoparticles encapsulating DOX. An avidin-biotin coupling system was used to control poly(ethylene glycol) conjugation to the surface of PLGA nanoparticles, of diam. ~130 nm, loaded with DOX to 5% (wt/wt). Encapsulation in nanoparticles did not compromise the efficacy of DOX; drug-loaded nanoparticles were found to be at least as potent as free DOX against A20 murine B-cell lymphoma cells in culture and of comparable efficacy against s.c. implanted tumors. Cardiotoxicity in mice as measured by echocardiog., serum creatine phosphokinase (CPK), and histopathol. was reduced for DOX-loaded nanoparticles as compared with free DOX. Administration of 18 mg/kg of free DOX induced a sevenfold increase in CPK levels and significant decreases in left ventricular fractional shortening over control animals, whereas nanoparticle-encapsulated DOX produced none of these pathol. changes.

8.在 substance 的選項中選取編號為 23214-92-8 的 Doxorubicin

Add KMP Alert

Research Topic "PEGylated PLGA nanoparticles f..." > references (2) > PEGylated PLGA nanoparticles f... > 23214-92-8

Substance Detail

Get References

Get Reactions

Get Commercial Sources

Get Regulatory Info

Send to SciPlanner

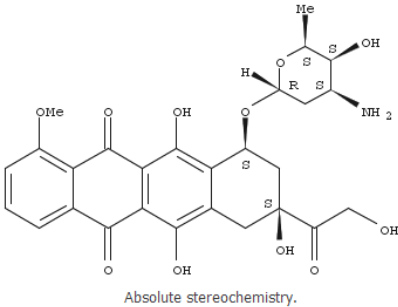
CAS Registry Number: 23214-92-8

C₂₇ H₂₉ N O₁₁

5,12-Naphthacenedione, 10-[[[3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(2-hydroxyacetyl)-1-methoxy-, (8S,10S)-

5,12-Naphthacenedione, 10-[[[3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S,10S)- (9CI); 5,12-Naphthacenedione, 10-[[[3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S-cis)-; 14-Hydroxydaunomycin; Biotransdox; Caelyx; Doxil; Doxorubicin; Evacet; Hydroxydaunomycin; Hydroxydaunorubicin; NSC 123127; PK 2; Rubex; Rubidox

Deleted CAS Registry Numbers: 23257-17-2, 24385-08-8, 25311-50-6, 29042-30-6



Absolute stereochemistry.

~25,599 References

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

CAS Role

Patents Nonpatents

Nonspecific Derivatives from Patents

Nonspecific Derivatives from Nonpatents

Analytical Study	✓	✓	✓	✓
Biological Study	✓	✓	✓	✓
Combinatorial Study				✓
Formation, Nonpreparative	✓	✓		✓
Miscellaneous	✓	✓		✓
Occurrence	✓	✓		✓
Preparation	✓	✓	✓	✓
Process	✓	✓	✓	✓
Properties	✓	✓	✓	✓
Prophetic in Patents	✓		✓	
Reactant or Reagent	✓	✓	✓	✓
Uses	✓	✓	✓	✓

► **Bioactivity Indicators** NEW

► **Target Indicators** NEW

Predicted Properties: [Biological Chemical Density Lipinski and Related Spectra Structure-related Thermal](#)

Biological Properties	Value	Condition	Note	Top
Bioconcentration Factor	1.0	pH 1 Temp: 25 °C	(32)	
Bioconcentration Factor	1.0	pH 2 Temp: 25 °C	(32)	
Bioconcentration Factor	1.0	pH 3 Temp: 25 °C	(32)	
Bioconcentration Factor	1.0	pH 4 Temp: 25 °C	(32)	
Bioconcentration Factor	1.0	pH 5 Temp: 25 °C	(32)	
Bioconcentration Factor	1.0	pH 6 Temp: 25 °C	(32)	
Bioconcentration Factor	1.0	pH 7 Temp: 25 °C	(32)	
Bioconcentration Factor	1.0	pH 8 Temp: 25 °C	(32)	
Bioconcentration Factor	1.0	pH 9 Temp: 25 °C	(32)	
Bioconcentration Factor	1.0	pH 10 Temp: 25 °C	(32)	

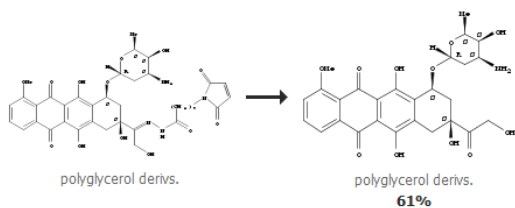
Chemical Properties	Value	Condition	Note	Top
Koc	1.0	pH 1 Temp: 25 °C	(32)	
Koc	1.0	pH 2 Temp: 25 °C	(32)	
Koc	1.0	pH 3 Temp: 25 °C	(32)	
Koc	1.0	pH 4 Temp: 25 °C	(32)	
Koc	1.0	pH 5 Temp: 25 °C	(32)	
Koc	1.0	pH 6 Temp: 25 °C	(32)	
Koc	1.0	pH 7 Temp: 25 °C	(32)	
Koc	1.0	pH 8 Temp: 25 °C	(32)	
Koc	1.0	pH 9 Temp: 25 °C	(32)	
Koc	1.0	pH 10 Temp: 25 °C	(32)	
logD	-2.86	pH 1 Temp: 25 °C	(32)	
logD	-2.86	pH 2 Temp: 25 °C	(32)	
logD	-2.86	pH 3 Temp: 25 °C	(32)	
logD	-2.85	pH 4 Temp: 25 °C	(32)	
logD	-2.74	pH 5 Temp: 25 °C	(32)	
logD	-2.26	pH 6 Temp: 25 °C	(32)	
logD	-1.61	pH 7 Temp: 25 °C	(32)	
logD	-1.48	pH 8 Temp: 25 °C	(32)	
logD	-2.28	pH 9 Temp: 25 °C	(32)	
logD	-3.57	pH 10 Temp: 25 °C	(32)	
logP	0.239±1.028	Temp: 25 °C	(32)	
Mass Intrinsic Solubility	Sparingly Soluble (0.016 g/L)	Temp: 25 °C	(32)	
Mass Solubility	Soluble (21 g/L)	pH 1 Temp: 25 °C	(32)	
Mass Solubility	Soluble (21 g/L)	pH 2 Temp: 25 °C	(32)	
Mass Solubility	Soluble (20 g/L)	pH 3 Temp: 25 °C	(32)	
Mass Solubility	Soluble (18 g/L)	pH 4 Temp: 25 °C	(32)	
Mass Solubility	Soluble (11 g/L)	pH 5 Temp: 25 °C	(32)	
Mass Solubility	Slightly Soluble (2.1 g/L)	pH 6 Temp: 25 °C	(32)	
Mass Solubility	Sparingly Soluble (0.41 g/L)	pH 7 Temp: 25 °C	(32)	

Experimental Properties: [Biological Chemical Lipinski and Related Optical and Scattering Spectra Structure-related Thermal](#)

Biological Properties	Value	Condition	Note	Top
ADME (Absorption, Distribution, Metabolism, Excretion)	See full text	1 of 51	(2)CAS	
Half-Life (Biological)	See full text	1 of 26	(5)CAS	
LC50	See full text	1 of 2	(7)CAS	
LD50	See full text	1 of 3	(8)CAS	
Median Lethal Dose(LD50)	570 mg/kg	Organism: mouse Route: oral	(11)CAS	
Median Lethal Dose(LD50)	30 mg/kg	Organism: mouse Route: intraperitoneal	(12)CAS	
Median Lethal Dose(LD50)	25.90 mg/kg	Organism: mouse Route: intravenous	(13)CAS	
Median Lethal Dose(LD50)	21 mg/kg	Organism: mouse Route: intravenous	(14)CAS	
Median Lethal Dose(LD50)	20.59 mg/kg	Organism: mouse Route: intravenous	(13)CAS	
Median Lethal Dose(LD50)	19.9 mg/kg	Organism: mouse Route: intravenous	(15)CAS	
Median Lethal Dose(LD50)	15 mg/kg	Organism: mouse Route: intraperitoneal	(16)CAS	
Median Lethal Dose(LD50)	14.4 mg/kg	Organism: mouse Route: intraperitoneal	(17)CAS	
Median Lethal Dose(LD50)	13.5 mg/kg	Organism: mouse Route: subcutaneous	(11)CAS	
Median Lethal Dose(LD50)	12.6 mg/kg	Organism: mouse Route: intraperitoneal	(18)CAS	
Median Lethal Dose(LD50)	12.5 mg/kg	Organism: mouse Route: intravenous	(11)CAS	
Median Lethal Dose(LD50)	11.98 mg/kg	Organism: mouse Route: intravenous	(19)CAS	
Median Lethal Dose(LD50)	10.51 mg/kg	Organism: rat Route: intravenous	(19)CAS	
Median Lethal Dose(LD50)	7.3 mg/kg	Organism: mouse Route: intraperitoneal	(20)CAS	
Median Lethal Dose(LD50)	5 mg/kg	Organism: rabbit Route: intravenous	(21)CAS	
Median Lethal Dose(LD50)	4.6 mg/kg	Organism: mouse Route: intraperitoneal	(11)CAS	
Median Lethal Dose(LD50)	2.5 mg/kg	Organism: dog Route: intravenous	(19)CAS	
Minimum Inhibitory Concentration	See full text	1 of 3	(26)CAS	

9點進去後可以看到許多 Doxorubicin 的物理性質、化學性質、生物性質包括 LD50 等等

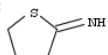
2. [View Reaction Detail](#) [Link](#) [Similar Reactions](#)
Single Step *Hover over any structure for more options.*



▼ [Overview](#)

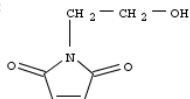
Steps/Stages

1.1 R:



(reaction products with amino-terminated po)
 S:H₂O, 10 min, rt, pH 5.8

1.2 R:



(reaction products with polyglycerol-drug a)
 S:H₂O, 1 h, rt

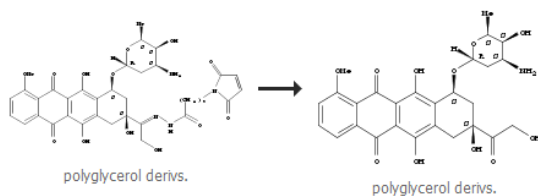
Notes

sodium phosphate buffer solution used in stage 1, first stage is attachment to polyglycerolamine, incremental addition of sodium phosphate buffer solution, Reactants: 1, Reagents: 2, Solvents: 1, Steps: 1, Stages: 2, Most stages in any one step: 2

References

[Drug conjugates with polyglycerols](#) [Full Text](#)
 By Kratz, Felix et al
 From PCT Int. Appl., 2009121564, 08 Oct 2009

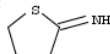
6. [View Reaction Detail](#) [Link](#) [Similar Reactions](#)
Single Step *Hover over any structure for more options.*



▼ [Overview](#)

Steps/Stages

1.1 R:



(reaction products with amino-terminated po)
 S:H₂O, 30 min, rt, pH 5.8; rt, pH 7

Notes

sodium phosphate buffer solution used, first stage is attachment to polyglycerolamine, incremental addition of sodium phosphate buffer solution, Reactants: 1, Reagents: 1, Solvents: 1, Steps: 1, Stages: 1, Most stages in any one step: 1

References

[Drug conjugates with polyglycerols](#) [Full Text](#)
 By Kratz, Felix et al
 From PCT Int. Appl., 2009121564, 08 Oct 2009

► [Experimental Procedure](#)

10. 點進去後一共有 20 種合成方式，都會列出他的反應條件，時間反應物，酸鹼值等等

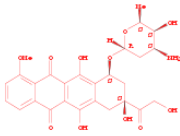
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☐ 1. Substance Detail
23214-92-8

~25599 [icon]



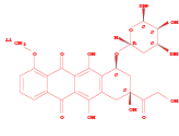
Absolute stereochemistry.

C₂₇ H₂₉ N O₁₁
5,12-Naphthacenedione, 10-[[[3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(2-hydroxyacetyl)-1-methoxy-, (8S,10S)-

Experimental Properties

☐ 3. Substance Detail
331747-74-1

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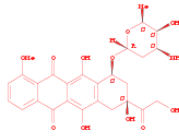


Absolute stereochemistry.

C₂₇ H₂₉ N O₁₁
5,12-Naphthacenedione, 10-[[[3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-(methoxy-11C)-, (8S,10S)- (9CI)

☐ 4. Substance Detail
325975-19-7

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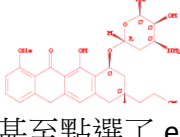


Absolute stereochemistry.

C₂₇ H₂₉ N O₁₁
5,12-Naphthacenedione, 10-[[[3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, labeled with carbon-14, (8S,10S)- (9CI)

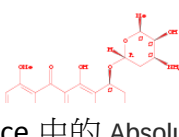
☐ 5. Substance Detail
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☐ 6. Substance Detail
25316-40-9
(Component: 23214-92-8)

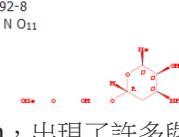
~8943 [icon]



☐ 7. Substance Detail
111266-55-8

~60 [icon]

23214-92-8
C₂₇ H₂₉ N O₁₁



11.我甚至點選了 explore substance 中的 Absolute stereo match，出現許多與 doxorubicin 的分子結構

● 使用心得:

為了搭配專利檢所平台的題目，我同樣選擇doxorubicin做為我的題目。scifinder的性質感覺比較像是應用在藥化方面的研究，所以我想針對doxorubicin的合成來進行資料搜尋。有搜尋到非常多種合成方法，不過我還是沒有學會要怎樣一個一個步驟往前推推出成本最便宜的合成方法。我覺得absolute stereo match是一個非常好的功能，因為在開發新藥時，可以藉由稍微改變一些結構而改變他的物化特性，但SAR還是一樣，可能可以減低副作用，但加強藥效。我上網查了一下資料，發現doxorubicin這個抗癌藥之所以會做成liposome的劑型，是因為除了一般常見的化療副作用：如嘔吐、噁心、黏模組織發炎和脫髮外，由於心肌對氫氧自由基的傷害特別敏感，使doxorubicin容易對心臟產生累積性的傷害而致命，因而限制了這個藥物的多次使用。目前已知改變投藥方式，使藥物在血中的濃度降低，可能可以降低心臟毒性。因此，利用微脂體(liposome)包裹doxorubicin，使未包裹藥物的血中濃度高峰降低，避免藥物與正常組織直接作用，應可有效的減緩副作用並可能減低doxorubicin的累積性心臟毒性。利用absolute stereo match，或許能找出修飾其心臟毒性但藥效相似的藥物。而scifinder也提供了doxorubicin物化性質的資料，這對於liposome劑型的研發也是很重要的背景資料，了解liposome該如何去配合藥物的劑量、環境最佳酸鹼度、溫度等等。