

| INFORME DE BÚSQUEDA DE PATENTES                                                                                                                                                                                                                                                                                                                                                              |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------|
| N° de solicitud: NC2016/0004894                                                                                                                                                                                                                                                                                                                                                              |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |                                                    |
| CRITERIOS PARA LA BÚSQUEDA                                                                                                                                                                                                                                                                                                                                                                   |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |                                                    |
| PALABRAS CLAVE UTILIZADAS                                                                                                                                                                                                                                                                                                                                                                    |                          | Complement AND factor B<br>Antisense AND CFB<br>Solicitante: IONIS AND PHARMACEUTICALS                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                |                                                    |
| CLASIFICACIONES UTILIZADAS PARA LA BÚSQUEDA                                                                                                                                                                                                                                                                                                                                                  |                          | CIP: C12N 5/00; A61K 38/00; C12Q 1/68<br>CPC:                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                |                                                    |
| DOCUMENTOS CONSIDERADOS RELEVANTES (documentos patentes, literatura no patente, etc...)                                                                                                                                                                                                                                                                                                      |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |                                                    |
| Informes/Base de datos                                                                                                                                                                                                                                                                                                                                                                       | N° de solicitud/ Autor** | Fecha de Publicación/ Presentación (DD/MM/AAAA)                                                                                                                                                                                                                                                                                                                                                                                                                                          | Reiv. afectadas (Con indicación, si procede, de las partes relevantes o números de secuencias) | Categorías especiales de los documentos citados*** |
| SIPI                                                                                                                                                                                                                                                                                                                                                                                         | CO16086923               | 7/abril/2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -                                                                                              | E                                                  |
| ESPACENET                                                                                                                                                                                                                                                                                                                                                                                    | US 7696344               | 13/abril/2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1-20                                                                                           | Y                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                              | US2004249178             | 9/diciembre/2004                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1-20                                                                                           | Y                                                  |
| USPTO                                                                                                                                                                                                                                                                                                                                                                                        | US20090292006            | 26/noviembre/2009                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1-20                                                                                           | Y                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                              | US2009239814             | 24/septiembre/2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1-20                                                                                           |                                                    |
| EPOQUENET                                                                                                                                                                                                                                                                                                                                                                                    | -                        | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -                                                                                              | -                                                  |
| *** Categorías especiales de documentos citados:                                                                                                                                                                                                                                                                                                                                             |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |                                                    |
| <p>“A” documento que define el estado general de la técnica no considerado como particularmente relevante.</p> <p>“E” solicitud de patente o patente anterior pero publicada en la fecha de presentación internacional o en fecha posterior.</p> <p>“P” documento publicado antes de la fecha de presentación internacional pero con posterioridad a la fecha de prioridad reivindicada.</p> |                          | <p>“X” documento particularmente relevante; la invención reivindicada no puede considerarse nueva o que implique una actividad inventiva por referencia al documento aisladamente considerado.</p> <p>“Y” documento particularmente relevante; la invención reivindicada no puede considerarse que implique una actividad inventiva cuando el documento se asocia a otro u otros documentos de la misma naturaleza, cuya combinación resulta evidente para un experto en la materia.</p> |                                                                                                |                                                    |
| Literatura patente                                                                                                                                                                                                                                                                                                                                                                           | no                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |                                                    |
| Fecha del reporte de búsqueda:                                                                                                                                                                                                                                                                                                                                                               |                          | 27/04/2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                |                                                    |

Browser window showing a search interface for patent applications. The URL is <http://10.20.100.160/sipi/Intra/IP/PT/Qbe.aspx?sid=636605857103751246>. The interface includes a search bar, a list of search results, and a detailed view of a specific patent application.

**Search Results:**

| Expediente No. | Título                                                                                                                      | Figura Característica | Estado(s)            | Examinador Principal  | Titular                     | Sector Tecnológico   |
|----------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|-----------------------|-----------------------------|----------------------|
| 10089823       | COMPUESTOS Y COMPOSICIONES QUE COMPRENDEN UN OLIGONUCLEÓTIDO MODIFICADO QUE CORRESPONDE A UN FACTOR DEL COMPLEMENTO B (CFB) |                       | Bajo Examen de Fondo | TATIANA VARGAS RIVERA | IONIS PHARMACEUTICALS, INC. | Productos Biológicos |

**Detailed View of Patent Application:**

**Expediente No.:** 1113737  
**Título:** IONIS PHARMACEUTICALS, INC.  
**Figura Característica:** IONIS PHARMACEUTICALS, INC.  
**Estado(s):** IONIS PHARMACEUTICALS, INC.  
**Examinador Principal:** IONIS PHARMACEUTICALS, INC.  
**Titular:** IONIS PHARMACEUTICALS, INC.  
**Sector Tecnológico:** IONIS PHARMACEUTICALS, INC.

**Form fields:**

- Referencia: [Empty field]
- Número de solicitud internacional PCT: [Empty field]
- Fecha de Solicitud Internacional PCT: desde [Empty field] hasta [Empty field]
- Número de Publicación Internacional PCT: [Empty field]
- Fecha de Publicación Internacional PCT: desde [Empty field] hasta [Empty field]
- Número de la gaceta: [Empty field]
- Fecha de la Gaceta: desde [Empty field] hasta [Empty field]
- Fórmula Química: [Empty field]
- Nombre(s) común(es): [Empty field]
- Indicación: [Empty field]
- Con/Sin Oposición: [Empty field]
- Número de Resolución: [Empty field]
- Examinador Principal: [Empty field]

**20 Casos asociados**

fiveIPOffices - CCD

Number: **WO2015168635** Search examples: EP1612402, US2006000447A1, JP20090214944

**WO2015US28916**

Hide CCD viewer Double inspector Timeline

CCD Viewer Export

Citations only view Compact view Sort by country Filter

Classifications & fields searched

| #  | CC | Cat.                                                                                   | Citation details               | Claims               |
|----|----|----------------------------------------------------------------------------------------|--------------------------------|----------------------|
| 10 | KR | Application N° KR20167032652                                                           | (KR1020167032652) - 1 May 2015 |                      |
| 11 | CN | Application N° CN2015820852                                                            | (CN2015820852) - 1 May 2015    |                      |
| 12 | SG | Application N° SGT11201608502                                                          | (SG11201608502) - 1 May 2015   |                      |
| 13 | CA | Application N° CA20152943894                                                           | (CA2943894) - 1 May 2015       |                      |
| 14 | AU | Application N° AU20150252858                                                           | (AU2015252858) - 1 May 2015    |                      |
| 15 | WO | Application N° WO2015US28916                                                           | (WOUS2015/028916) - 1 May 2015 |                      |
|    |    | International Search Report                                                            |                                |                      |
|    |    | X US2010093085 A1 (DHARMACON INC [US]) - 15 April 2010                                 |                                | 5                    |
|    |    | A *; figure 13A; paragraphs [0003], [0005] - [0008], [0011], [0015], [0508]; Table 6 * |                                | 1,2,23/1,23/2,23/5   |
|    |    | A US7696344 B2 (DHARMACON INC [US]) - 13 April 2010                                    |                                | 1,2,5,23/1,23/2,23/5 |
|    |    | *; column 5, lines 42 - 50; column 7, lines 21 - 23; column 33, lines 30 - 52 *        |                                |                      |
|    |    | A US2002082227 A1 (HENRY SCOTT) - 27 June 2002                                         |                                | 1,2,5,23/1,23/2,23/5 |
|    |    | *; abstract; paragraphs [0018], [0047], [0224] *                                       |                                |                      |
| 16 | EP | Application N° EP20150786214                                                           | (EP15786214.5) - 1 May 2015    |                      |
|    |    | National Search Report                                                                 |                                |                      |
|    |    | Y US7696344 B2 (DHARMACON INC [US]) - 13 April 2010                                    |                                | 1-11,14-16<br>12,13  |
|    |    | A *; column 33; example XVIII *                                                        |                                |                      |
|    |    | Y US2004249178 A1 (SIRNA THERAPEUTICS INC [US]) - 9 December 2004                      |                                | 1-11,14-16<br>12,13  |
|    |    | A *; paragraphs [0009], [0365] - [0373]; figures 46 - 48; claims 1, 5 - 21 *           |                                |                      |
|    |    | Y WO2012177947 A2 (ALNYLAM PHARMACEUTICALS INC [US], et al) - 27 December 2012         |                                | 1-11,14-16<br>12,13  |

Simple families: 1 Total family members: 16

Inspector: classifications and fields searched

Classifications

**CL**

IPC **A61K48/00**

CPC C12Y304/21047, C12N15/113, C12N2310/11, C12N2310/315, C12N2310/3341, C12N2310/341, C12N2310/346, C12N2310/351, C12N15/1137, C12N2310/321

**CR**

IPC **A61K38/00, C12N5/00, C12Q1/68**

CPC C12Y304/21047, C12N15/113, C12N2310/11, C12N2310/315, C12N2310/3341, C12N2310/341, C12N2310/346, C12N2310/351, C12N15/1137, C12N2310/321

**JP**

IPC **C12N15/00, A61K31/7088, A61K47/50, A61P13/12, A61P27/02, A61P37/02, A61P43/00, C07K14/47**

CPC C12Y304/21047, C12N15/113, C12N2310/11, C12N2310/315, C12N2310/3341, C12N2310/341, C12N2310/346, C12N2310/351, C12N15/1137, C12N2310/321

**US**

IPC **C12N15/113**

CPC C12Y304/21047, C12N15/113, C12N2310/11, C12N2310/315, C12N2310/3341, C12N2310/341, C12N2310/346, C12N2310/351, C12N15/1137, C12N2310/321

**EA**

IPC **C12N5/00, A61K38/00, C12Q1/68**

CPC C12Y304/21047, C12N15/113, C12N2310/11, C12N2310/315, C12N2310/3341, C12N2310/341, C12N2310/346, C12N2310/351, C12N15/1137, C12N2310/321

**PE**

IPC **A61K38/00, C12N5/00, C12Q1/68**

CPC C12Y304/21047, C12N15/113, C12N2310/11, C12N2310/315, C12N2310/3341, C12N2310/341, C12N2310/346, C12N2310/351, C12N15/1137, C12N2310/321

LENS.ORG

English

About

Innovation Apps

Guest Work Area

Register / Sign in

Support

Patents

2 Patent Results

WO 2015/168635 A2

Refine Your Search

Refine Search

Register

To create, manage and edit collections of Patent search results and soon Scholar results, save current work, you need to register a FREE account or sign in.

Register

Sign In

Your Recent Notes

Filter Notes

No Notes

Patent Summary

Full-text

Citations

Family Info

Sequences

Legal Info

Collection

Compositions And Methods For Modulating Complement Factor B Expression

Published: Nov 5, 2015

Family: 18

Cited: 1

Sequences: 854

Info: Full text Published

Sequence

Patent Application

WO 2015/168635 A2

lens.org/185-105-067-176-546

Displaying SEQ ID NO 440 - Nucleotide Sequence

- NCBI Entrez GenInfo ID: N/A
- Mentioned In Claims? Yes
- Organism: Artificial
- Sequence type: nucleotide
- Sequence length : 20bp
- FASTA Sequence

>WO\_2015\_168635\_440

ATCCACGCGC CCGTCCAGC

## Alineamiento

EMBL-EBI Services Research Training Industry About us

EMBL-EBI Hinxton

Clustal Omega

Input form

Web services

Help & Documentation

Bioinformatics Tools FAQ

Feedback

Share

Tools > Multiple Sequence Alignment > Clustal Omega

Results for job clustalo-I20180426-222203-0971-52975019-p1m

Alignments

Phylogenetic Tree

Submission Details

Download Alignment File

View result with Jalview

Send to Simple Phylogeny

Send to MView

CLUSTAL O(1.2.4) multiple sequence alignment

NC20160904894

ATCCACGCGCCCTGTCCAGC 20

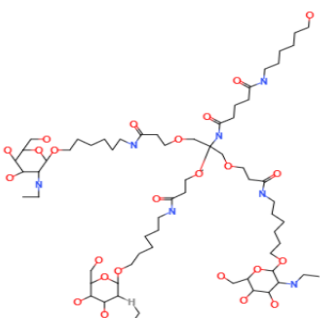
D1

CCACCCCGCCCCCTGTCCCC- 19

\*\* \*\*\*\*\*

PLEASE NOTE: Showing colors on large alignments is slow.

Search page    Lookup compounds    Tools    Help    History



**minesoft chemical explorer**

Search type: **Identity**   Similarity   Substructure

**Identity search**

| Identity type:                                 | Description                                                                                                                                  |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="radio"/> <b>Narrow</b> | Returns chemical structures with same distribution of electrons, atom isotopes, stereochemistry and connected fragments (if specified).      |
| <input type="radio"/> <b>Broad</b>             | Returns chemical structures independent of distribution of electrons, atom isotopes, stereochemistry and connected fragments (if specified). |
| <input type="radio"/> <b>Tautomer</b>          | Returns chemical structures that are tautomers of the provided chemical structure.                                                           |

Return structures:

Filter by molecular weight:  -

Filter by molecular formula:  contains

☒ Found in claims   ☐ All

Country:  All

Number of structures to return:  50

**Search**   **Clear**

PatBase - Search results   27 April 2018  
 Search query (1): [Chemical Explorer]: Selected structures (1)  
 Results: 1

#### Search history

Search 1: [Chemical Explorer]: Selected structures (1) (Results 1)

**Title:** CONJUGATED ANTISENSE COMPOUNDS AND THEIR USE

**Abstract:** Source: US2014343123A [EN] Provided herein are oligomeric compounds with conjugate groups. In certain embodiments, the oligomeric compounds are conjugated to N-Acetylgalactosamine.

**Classifications:****International (IPC 8-9):** A61K A61K31/13

A61K31/7088 A61K31/7105 A61K31/7115

A61K31/712 A61K31/7125 A61K31/713 A61K38/00

A61K39/00 A61K45/00 A61K47/22 A61K47/26

A61K47/34 A61K47/48 A61K47/55 A61K48/00

A61K9/127 A61P1/04 A61P1/08 A61P1/10 A61P1/12

A61P1/14 A61P1/16 A61P1/18 A61P11/16

A61P13/02 A61P13/12 A61P15/10 A61P19/02

A61P21/00 A61P25/00 A61P25/02 A61P25/08

A61P25/10 A61P25/12 A61P25/14 A61P25/20

A61P25/22 A61P27/02 A61P27/04 A61P27/06

A61P29/00 A61P3/00 A61P3/04 A61P3/06 A61P3/10

A61P31/20 A61P35/00 A61P43/00 A61P7/04

A61P7/10 A61P9/00 A61P9/02 A61P9/04 A61P9/06

A61P9/10 A61P9/12 C07H15/00 C07H15/18

C07H15/26 C07H19/10 C07H19/20 C07H21/00

C07H21/02 C07H21/04 C07K C07K14/775 C07K5/00

C07K5/02 C07K5/027 C07K5/062 C07K5/068

C07K7/00 C12N C12N15/09 C12N15/11 C12N15/113

C12N15/13 (Advanced/Invention);

C07K14/775 (Advanced/Non-invention);

A61K C07H C07K C12N (Subclass/Invention)

**International (IPC 1-7):** A61K38/00 A61K39/00

A61K48/00 C07H21/04 C07K14/775 C12N15/11

CPC: C12N2310/11 C12N2310/351 C12N15/113

C12N15/111 C12N2310/3515 C12N2320/32

C12N2310/17 C12N2310/3513 C12N2310/346

C12N2310/341 C07H21/04 C12N2310/113

C12N2310/315 C12N2310/321 C12N2310/322 C12N2310/3341 C12N2310/3511 C12N2310/353 A61K48/00

A61K31/7088 C12N2310/32 A61K48/005 C12N2310/34 C12N2310/35 A61K31/7105 C12N2310/3231

A61K31/713 C12N2310/31 C12N2310/3525 C07H21/00 A61K31/7125

**US:** 1/1 435/375 514/44A 536/17.1 536/17.9 536/24.5

PatBase - RU2650510\_C2

ПЕРЕЧЕНЬ ПОСЛЕДОВАТЕЛЬНОСТЕЙ

<110> АРСИС ФАРМАСЮТИКАЛС, ИНК.

<120> КОМПОЗИЦИИ И СПОСОБЫ МОДУЛИРОВАНИЯ АПОЛИПОПРОТЕИНА С-111  
EXPRESSION

<130> BZOL0249W0

<150> 61/818422  
<151> 2013-05-01

<150> 61/823826  
<151> 2013-05-15

<150> 61/843887  
<151> 2013-07-08

<150> 61/871673  
<151> 2013-08-29

<150> 61/880790  
<151> 2013-09-20

<150> 61/976992  
<151> 2014-04-08

<150> 61/986867  
<151> 2014-04-30

<160> 277

<170> Patentin, версия 3.5

<210> 1  
<211> 533  
<212> ДНК  
<213> Homo sapiens

<400> 1  
tgcctcagttc atcccttagag gcagctgctc caggaacaga ggtgccatgc agccccgggt 60  
actccctggtt gttgcctcttc tggcctctct ggcctctgpc cgaacttcag aggcagagga 120  
tgctctctct ctcagcttca tgcaggggta catgaagcac gccaccaaga cgcctcagga 180  
tgactcagac agctgcaggg agtcccgagt ggcctcagac gccaggggct gggtgaccga 240  
tggcttcagt tccctgaag actactggag caccgttaag gacaattct ctagttctg 300  
ggatttgagc cctgaagcca gcccaatttc agcgtggtt gccctagacc tcaatcccc 360  
aagtcacctt gcatctccat cctcgagct ccttggtctt tgcactctcc aggcctgccc 420  
ctgtaggttg cttaaaagg acagtattct cagtctctt ctacccacc tcatgctctg 480  
cccccttcca ggcctgctgg cctcccaata aagctggaca agaactgctt atg 533

<210> 2  
<211> 3964  
<212> ДНК  
<213> Homo sapiens

<400> 2  
ctacttcagg ctgtgttcag ggcctgggpc tggtagggg aggggctga aattccagtg 60  
tgaagagctg agatggcccc gaggcccttg gctatgttc aagcatttc cctctcacc 120  
agctctcttc tggggagcca gtcagctagg aaggaatgag ggtctccag gccaccccc 180  
agttcttag ctcactggg ctgcaggggt ggcgggacag cagctggac tcagtctct 240

**Family:**

| Publication number       | Publication date | Application number | Application date |
|--------------------------|------------------|--------------------|------------------|
| <u>AU2014259750 AA</u>   | 201411106        | AU20140259750      | 20140501         |
| <u>AU2014259755 AA</u>   | 201411106        | AU20140259755      | 20140501         |
| <u>AU2014259756 AA</u>   | 201411106        | AU20140259756      | 20140501         |
| <u>AU2014259756 BB</u>   | 20170223         | AU20140259756      | 20140501         |
| <u>AU2014259757 AA</u>   | 201411106        | AU20140259757      | 20140501         |
| <u>AU2014259757 BB</u>   | 20170302         | AU20140259757      | 20140501         |
| <u>AU2014259759 AA</u>   | 201411106        | AU20140259759      | 20140501         |
| <u>AU2017200365 AA</u>   | 20170223         | AU20170200365      | 20170119         |
| <u>AU2017200950 AA</u>   | 20170302         | AU20170200950      | 20170213         |
| <u>AU2017203436 AA</u>   | 20170608         | AU20170203436      | 20170523         |
| <u>BR112015027319 A2</u> | 20170926         | BR20151127319      | 20140501         |
| <u>BR112015027321 A2</u> | 20170926         | BR20151127321      | 20140501         |
| <u>BR112015027322 A2</u> | 20170926         | BR20151127322      | 20140501         |
| <u>BR112015027369 A2</u> | 20170926         | BR20151127369      | 20140501         |
| <u>BR112015027377 A2</u> | 20170829         | BR20151127377      | 20140501         |

|                        |          |                |          |
|------------------------|----------|----------------|----------|
| <u>CA2921162 AA</u>    | 20160211 | CA20142921162  | 20140501 |
| <u>CA2921167 AA</u>    | 20160211 | CA20142921167  | 20140501 |
| <u>CA2921509 AA</u>    | 20160216 | CA20142921509  | 20140501 |
| <u>CA2921514 AA</u>    | 20160216 | CA20142921514  | 20140501 |
| <u>CA2921518 AA</u>    | 20160216 | CA20142921518  | 20140501 |
| <u>CL2015003217 A1</u> | 20160708 | CL20150003217  | 20151030 |
| <u>CL2016002262 A1</u> | 20170609 | CL20160002262  | 20160907 |
| <u>CN105377887 A</u>   | 20160302 | CN201480035625 | 20140501 |
| <u>CN105378082 A</u>   | 20160302 | CN201480035633 | 20140501 |
| <u>CN105378085 A</u>   | 20160302 | CN201480035618 | 20140501 |
| <u>CN105392488 A</u>   | 20160309 | CN201480035624 | 20140501 |
| <u>CO7590617 A2</u>    | 20160429 | CO20150285460  | 20151130 |
| <u>CR20150612 A</u>    | 20160303 | CR20150000612  | 20151112 |
| <u>DOP2015000268 A</u> | 20151130 | DO20150000268  | 20151028 |
| <u>DOP2016000287 A</u> | 20170215 | DO20160000287  | 20161024 |
| <u>EA201592093 A1</u>  | 20160630 | EA20150092093  | 20140501 |
| <u>EP2991656 A2</u>    | 20160309 | EP20140791557  | 20140501 |
| <u>EP2991656 A4</u>    | 20170222 | EP20140791557  | 20140501 |
| <u>EP2991661 A1</u>    | 20160309 | EP20140792010  | 20140501 |
| <u>EP2991661 A4</u>    | 20170215 | EP20140792010  | 20140501 |
| <u>EP2992009 A1</u>    | 20160309 | EP20140791187  | 20140501 |
| <u>EP2992009 A4</u>    | 20161228 | EP20140791187  | 20140501 |
| <u>EP2992097 A2</u>    | 20160309 | EP20140791863  | 20140501 |
| <u>EP2992097 A4</u>    | 20170104 | EP20140791863  | 20140501 |
| <u>EP2992098 A2</u>    | 20160309 | EP20140791344  | 20140501 |
| <u>EP2992098 A4</u>    | 20170111 | EP20140791344  | 20140501 |
| <u>HK1221403 A1</u>    | 20170602 | HK20160109533  | 20160810 |
| <u>HK1221404 A1</u>    | 20170602 | HK20160109545  | 20160810 |
| <u>HK1221475 A1</u>    | 20170602 | HK20160109539  | 20160810 |
| <u>HK1221485 A1</u>    | 20170602 | HK20160109538  | 20160810 |
| <u>HK1221486 A1</u>    | 20170602 | HK20160109541  | 20160810 |
| <u>ID201704516 A</u>   | 20170505 | ID2015P0007997 | 20140501 |
| <u>ID201711696 A</u>   | 20171020 | ID2016P0005718 | 20160826 |
| <u>IL242124 A0</u>     | 20151231 | IL20140242124  | 20140501 |
| <u>IL242125 A0</u>     | 20151231 | IL20140242125  | 20140501 |
| <u>IL242126 A0</u>     | 20151231 | IL20140242126  | 20140501 |
| <u>IL242127 A0</u>     | 20160106 | IL20140242127  | 20140501 |
| <u>IL242132 A0</u>     | 20160106 | IL20140242132  | 20140501 |
| <u>IN07290CN2015 A</u> | 20160701 | IN2015CN07290  | 20151124 |
| <u>IN07300CN2015 A</u> | 20160701 | IN2015CN07300  | 20151124 |
| <u>IN07302CN2015 A</u> | 20160701 | IN2015CN07302  | 20151124 |
| <u>IN07303CN2015 A</u> | 20160701 | IN2015CN07303  | 20151124 |
| <u>IN07306CN2015 A</u> | 20160701 | IN2015CN07306  | 20151124 |
| <u>JP2016522683 A2</u> | 20160804 | JP20160512054  | 20140501 |
| <u>JP2016522683 T2</u> | 20160804 | JP20160512054T | 20140501 |
| <u>JP2016522817 A2</u> | 20160804 | JP20160512052  | 20140501 |
| <u>JP2016522817 T2</u> | 20160804 | JP20160512052T | 20140501 |
| <u>JP2016523515 A2</u> | 20160812 | JP20160512055  | 20140501 |
| <u>JP2016523515 T2</u> | 20160812 | JP20160512055T | 20140501 |
| <u>JP2016526018 A2</u> | 20160901 | JP20160512051  | 20140501 |
| <u>JP2016526018 T2</u> | 20160901 | JP20160512051T | 20140501 |
| <u>JP2016526874 A2</u> | 20160908 | JP20160512053  | 20140501 |
| <u>JP2016526874 T2</u> | 20160908 | JP20160512053T | 20140501 |
| <u>JP2018027091 A2</u> | 20180222 | JP20170182019  | 20170922 |
| <u>JP6216444 B2</u>    | 20171018 | JP20160512052T | 20140501 |

|                   |          |               |          |
|-------------------|----------|---------------|----------|
| KR20160002974 A   | 20160108 | KR20157033025 | 20140501 |
| KR20160002975 A   | 20160108 | KR20157033027 | 20140501 |
| KR20160002976 A   | 20160108 | KR20157033028 | 20140501 |
| KR20160002977 A   | 20160108 | KR20157033031 | 20140501 |
| KR20160003723 A   | 20160111 | KR20157033029 | 20140501 |
| MX2015015220 A1   | 20160112 | MX20150015220 | 20140501 |
| MX2015015234 A1   | 20161003 | MX20150015234 | 20140501 |
| MX2015015239 A1   | 20161003 | MX20150015239 | 20140501 |
| MX2015015263 A1   | 20161216 | MX20150015263 | 20140501 |
| MX2015015264 A1   | 20160812 | MX20150015264 | 20140501 |
| NZ631512 A        | 20161028 | NZ20140631512 | 20140501 |
| NZ631537 A        | 20170526 | NZ20140631537 | 20140501 |
| NZ631552 A        | 20170224 | NZ20140631552 | 20140501 |
| PE14302016 A1     | 20170106 | PE20160001724 | 20140501 |
| PE20022015 A1     | 20160121 | PE20150002330 | 20140501 |
| PH2015502493 A    | 20160222 | PH20150502493 | 20151029 |
| RU2015151199 A    | 20170605 | RU20150151199 | 20140501 |
| RU2015151199 A3   | 20180327 | RU20150151199 | 20140501 |
| RU2015151202 A    | 20170606 | RU20150151202 | 20140501 |
| RU2015151202 A3   | 20180327 | RU20150151202 | 20140501 |
| RU2015151203 A    | 20170602 | RU20150151203 | 20140501 |
| RU2015151204 A    | 20170602 | RU20150151204 | 20140501 |
| RU2015151204 A3   | 20180327 | RU20150151204 | 20140501 |
| RU2650510 C2      | 20180416 | RU20150151203 | 20140501 |
| SG10201801507R A1 | 20180328 | SG20181001507 | 20140501 |
| SG11201508800W A1 | 20151127 | SG20151108800 | 20140501 |
| SG11201508870V A1 | 20151127 | SG20151108870 | 20140501 |
| US2014343123 AA   | 20141120 | US20140267842 | 20140501 |
| US2015126718 AA   | 20150507 | US20140586751 | 20141230 |
| US2015126719 AA   | 20150507 | US20140586826 | 20141230 |
| US2015126720 AA   | 20150507 | US20140588061 | 20141231 |
| US2015176007 AA   | 20150625 | US20150633491 | 20150227 |
| US2016017323 AA   | 20160121 | US20150744539 | 20150619 |
| US2016076030 AA   | 20160317 | US20150822493 | 20150810 |
| US2016076032 AA   | 20160317 | US20140888318 | 20140501 |
| US2016090595 AA   | 20160331 | US20150839521 | 20150828 |
| US2016090596 AA   | 20160331 | US20150839580 | 20150828 |
| US2018002693 AA   | 20180104 | US20170618365 | 20170609 |
| US2018044676 AA   | 20180215 | US20170687306 | 20170825 |
| US9127276 BB      | 20150908 | US20140267842 | 20140501 |
| US9145558 BB      | 20150929 | US20150633491 | 20150227 |
| US9163239 BB      | 20151020 | US20140586826 | 20141230 |
| US9181549 BB      | 20151110 | US20140586751 | 20141230 |
| US9181550 BB      | 20151110 | US20140588061 | 20141231 |
| US9714421 BB      | 20170725 | US20140888318 | 20140501 |
| US9932580 BB      | 20180403 | US20150822493 | 20150810 |
| US9932581 BB      | 20180403 | US20150839521 | 20150828 |
| WO14179620 A1     | 20141106 | WO2014US36452 | 20140501 |
| WO14179625 A1     | 20141106 | WO2014US36460 | 20140501 |
| WO14179626 A2     | 20141106 | WO2014US36462 | 20140501 |
| WO14179626 A3     | 20150226 | WO2014US36462 | 20140501 |
| WO14179627 A2     | 20141106 | WO2014US36463 | 20140501 |
| WO14179627 A3     | 20150416 | WO2014US36463 | 20140501 |
| WO14179627 A9     | 20150226 | WO2014US36463 | 20140501 |
| WO14179629 A2     | 20141106 | WO2014US36466 | 20140501 |

|                      |          |               |          |
|----------------------|----------|---------------|----------|
| <u>WO14179629 A3</u> | 20150122 | WO2014US36466 | 20140501 |
| <u>WO14179629 A8</u> | 20160602 | WO2014US36466 | 20140501 |
| <u>ZA201507216 A</u> | 20170830 | ZA20150007216 | 20150929 |
| <u>ZA201600076 A</u> | 20170426 | ZA20160000076 | 20160105 |

**Priority:**

|                |          |                |          |                |          |
|----------------|----------|----------------|----------|----------------|----------|
| US20130818442P | 20130501 | US20130814422P | 20130501 | US20130823826P | 20130515 |
| US20130843887P | 20130708 | US20130843877P | 20130708 | US20130871673P | 20130829 |
| US20130880790P | 20130920 | US20140976991P | 20140408 | US20140986867P | 20140430 |
| AU20140259756  | 20140501 | AU20140259757  | 20140501 | JP20160512052T | 20140501 |
| RU20150151202  | 20140501 | RU20150151204  | 20140501 | RU20150151199  | 20140501 |
| US20140267842  | 20140501 | US20140888318  | 20140501 | WO2014US36462  | 20140501 |
| WO2014US36460  | 20140501 | WO2014US36463  | 20140501 | WO2014US36452  | 20140501 |
| WO2014US36466  | 20140501 | US20140586826  | 20141230 | US20140586751  | 20141230 |
| US20140588061  | 20141231 | US20150633491  | 20150227 | US20150744539  | 20150619 |
| US20150822493  | 20150810 | US20150839521  | 20150828 | US20150839580  | 20150828 |
| US20150888318  | 20151030 | AU20170200365  | 20170119 | AU20170200950  | 20170213 |
| AU20170203436  | 20170523 | US20170618365  | 20170609 | US20170687306  | 20170825 |

**Probable Assignee:** IONIS PHARMACEUTICALS INC

**Assignee(s):** (std): IONIS PHARMACEUTICALS INC ; ISIS PHARMACEUTICALS INC

**Assignee(s):** SETH PUNIT P ; PRAKASH THAZHA P ; SWAYZE ERIC E ; GRAHAM MARK J

**Inventor(s):** (std): ERIC E SWAYZE ; GRAHAM MARK J ; PRAKASH THAZHA P ; MARK J GRAHAM ; PRAKASH THAZHA ; SETH PUNIT P ; SWAYZE ERIC E ; THAZHA P PRAKASH ; PUNIT P SETH ; SWAYZE ERIC ; SETH PUNIT

**Agent(s):** PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; CLARO SWINBURN LUIS FELIPE; LUZ CLEMENCIA DE PAEZ; CHAPMAN DESMOND MARK; CARPMAELS AND RANSFORD LLP; ANDROMEDA BA SH; YAMAMOTO OSAMU; TAKEUCHI SHIGEO; ONO SHINJIRO; KOBAYASHI YASUSHI; FUKUSHO SHINOBU; MIYAMAE TORU; NAKANISHI MOTOHARU; KARPENKO OKSANA YUREVNA; PIZZEYS PTE LTD; HOXIE AND ASSOCIATES LLC; ISIS PHARMACEUTICALS INC PATENT DEPT; GRANT IP INC; IONIS PHARMACEUTICALS INC PATENT DEPT; KNOBBE MARTENS OLSON AND BEAR LLP; STRAHER MICHAEL P ET AL; LIANG TERESA Y ET AL; TUNG JEFFREY J ET AL; EVANS WILLIAM M ET AL

**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

PatBase

Username: SIC6@patbase.com  
Subaccount: none

Menu - Search - History - Session - Folder - Order Help - Logoff

Search 8: (7)  
Results 115

Explore search Edit and resend search

| # | Search query                                 | Results | Options                                   |
|---|----------------------------------------------|---------|-------------------------------------------|
| 8 | (7)                                          | 115     | View   Browse   Hits   Optimise   more... |
| 7 | 6 and 4                                      | 115     | View   Browse   Hits   Optimise   more... |
| 6 | STAC=(N-acetylgalactosamine )                | 803     | View   Browse   Hits   Optimise   more... |
| 5 | 3 and 4                                      | 32      | View   Browse   Hits   Optimise   more... |
| 4 | liver OR hepatocytes                         | 92396   | View   Browse   Hits   Optimise   more... |
| 3 | GallNAc                                      | 231     | View   Browse   Hits   Optimise   more... |
| 2 | STAC=(N-acetylgalactosamine AND cluster)     | 21      | View   Browse   Hits   Optimise   more... |
| 1 | [Chemical Explorer]: Selected structures (1) | 1       | View   Browse   Hits   Optimise   more... |

Information | Shortcuts

8: More options

PatBase Analytics  
Class Analysis  
Snapshot  
Explore search

Export search results  
Publish / Send results  
Add to results folder

Save search  
Order documents  
Set as a search filter  
Create alert

Cancel

Command line: Search

PatBase has been developed in partnership by  
minesoft & RWS

WO2009073809A2.pdf  
2.8/10.4 MB. Quedan 27 s

WO2014179625-P....pdf

WO2014179625.pdf

patbase\_rad38B24....doc

Mostrar todo