

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4481005

<b>SUBMISSION TYPE:</b>	CORRECTIVE ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	Corrective Assignment to correct the ADDRESS OF THE ASSIGNEE previously recorded on Reel 042464 Frame 0407. Assignor(s) hereby confirms the ASSIGNMENT OF THE ASSIGNORS INTEREST.

**CONVEYING PARTY DATA**

Name	Execution Date
ACTELION PHARMACEUTICALS LTD	05/09/2017

**RECEIVING PARTY DATA**

<b>Name:</b>	IDORSIA PHARMACEUTICALS LTD
<b>Street Address:</b>	HEGENHEIMERMATTWEG 91
<b>City:</b>	ALLSCHWIL
<b>State/Country:</b>	SWITZERLAND
<b>Postal Code:</b>	CH-4123

**PROPERTY NUMBERS Total: 109**

Property Type	Number
Patent Number:	8067419
Patent Number:	8889688
Patent Number:	9637473
Patent Number:	9428456
Patent Number:	7714132
Patent Number:	9169270
Patent Number:	8039474
Patent Number:	8143304
Patent Number:	8697869
Patent Number:	8575158
Patent Number:	9096595
Patent Number:	9255090
Patent Number:	9266876
Patent Number:	8324232
Patent Number:	8288419
Patent Number:	9139524
Patent Number:	9284288
Patent Number:	9533964
Patent Number:	8536209

PATENT

<b>Property Type</b>	<b>Number</b>
Patent Number:	8563714
Patent Number:	8580831
Patent Number:	9346793
Patent Number:	9187435
Patent Number:	8846733
Patent Number:	9057726
Patent Number:	8709734
Patent Number:	8889714
Patent Number:	7985760
Patent Number:	7994198
Patent Number:	8022219
Patent Number:	8071780
Patent Number:	6703392
Patent Number:	9532985
Patent Number:	8247560
Patent Number:	8314238
Patent Number:	8329706
Patent Number:	8895606
Patent Number:	9000029
Patent Number:	9211279
Patent Number:	9242970
Patent Number:	9303023
Patent Number:	9150566
Patent Number:	9493446
Patent Number:	9403813
Patent Number:	7763638
Patent Number:	9221832
Patent Number:	9409917
Patent Number:	9556117
Patent Number:	9388197
Patent Number:	9388198
Patent Number:	8048881
Patent Number:	8093250
Patent Number:	8044055
Patent Number:	8518912
Patent Number:	8058263
Patent Number:	8466156
Patent Number:	8288385

<b>Property Type</b>	<b>Number</b>
Patent Number:	8664203
Patent Number:	8580824
Patent Number:	8575200
Patent Number:	8658675
Patent Number:	9133179
Patent Number:	9617250
Patent Number:	7723378
Patent Number:	8039644
Patent Number:	8202885
Patent Number:	8492555
Patent Number:	9296673
Patent Number:	8816118
Patent Number:	8044044
Patent Number:	8114867
Patent Number:	8217029
Patent Number:	8193179
Patent Number:	9505750
Patent Number:	8349828
Patent Number:	8349826
Patent Number:	8349829
Patent Number:	8618092
Patent Number:	9346804
Patent Number:	8507478
Patent Number:	8211890
Patent Number:	8415375
Patent Number:	9079922
Patent Number:	9527867
Patent Number:	9540399
Patent Number:	7820655
Application Number:	14892959
Application Number:	15125018
Application Number:	15127361
Application Number:	15316100
Application Number:	15510980
Application Number:	14906882
Application Number:	15128846
Application Number:	15118046
Application Number:	14911000

Property Type	Number
Application Number:	14757491
Application Number:	15021649
Application Number:	15106790
Application Number:	15123184
Application Number:	15311758
Application Number:	14405649
Application Number:	15101871
Application Number:	15101832
Application Number:	15101768
Application Number:	14651922
Application Number:	14894114
Application Number:	15006285
Application Number:	15135352
Application Number:	15516290

**CORRESPONDENCE DATA**

**Fax Number:** (312)419-9440

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Phone:** 312 380 6497

**Email:** pvizitiu@dennemeyer-law.com

**Correspondent Name:** ROXANA A. SULLIVAN

**Address Line 1:** 2 NORTH RIVERSIDE PLAZA, SUITE 1500

**Address Line 4:** CHICAGO, ILLINOIS 60606

**ATTORNEY DOCKET NUMBER:** 30115-103138PT

**NAME OF SUBMITTER:** ROXANA A. SULLIVAN

**SIGNATURE:** /ras/

**DATE SIGNED:** 06/27/2017

**Total Attachments: 5**

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<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4412597

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT

**CONVEYING PARTY DATA**

Name	Execution Date
ACTELION PHARMACEUTICALS LTD.	05/09/2017

**RECEIVING PARTY DATA**

<b>Name:</b>	IDORSIA PHARMACEUTICALS LTD.
<b>Street Address:</b>	HAGENHEIMERMATTWEG 91
<b>City:</b>	ALLSCHWIL
<b>State/Country:</b>	SWITZERLAND
<b>Postal Code:</b>	CH-4123

**PROPERTY NUMBERS Total: 109**

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Patent Number:	9096595
Patent Number:	9255090
Patent Number:	9266876
Patent Number:	8324232
Patent Number:	8288419
Patent Number:	9139524
Patent Number:	9284288
Patent Number:	9533964
Patent Number:	8536209
Patent Number:	8563714

UNITED STATES OF AMERICA

ASSIGNMENT OF PATENT

U.S. Patent Nos.: As mentioned in the attached Schedule A

For good and valuable consideration in hand paid, the receipt and sufficiency whereof are hereby acknowledged, **Actelion Pharmaceuticals Ltd**, a stock corporation organized under the laws Switzerland, having an address at Gewerbestrasse 16, CH-4123 Allschwil, Switzerland (Assignor), hereby sells, assigns, transfers and sets over to **Idorsia Pharmaceuticals Ltd**, a stock corporation organized under the laws of Switzerland, having an address at Heggenheimermattweg 91, CH-4123 Allschwil, Switzerland (Assignee) and to the successors and assigns of Assignee, the entire right, title and interest in the invention or improvements of the undersigned disclosed in U.S. Patent Nos.: in the attached Schedule A; THEREOF, and in said patents and any and all other applications, both United States and foreign, which the undersigned may have filed and/or may file, either solely or jointly with others, on said inventions or improvements in any United States or foreign patent application claiming priority from, or claiming the same or improved invention as, any or all of the applications upon which said U.S. Patents issued, and in any and all Letters Patent or industrial models of the United States and foreign countries which may be obtained on any of said applications and in any reissue or extension of such patents, for the full term or terms for which said Patent, Patents or Industrial Design are or may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by Assignor had this assignment and sale not been made; together with all claims for damages by reason of past infringement of any or all of said Patents with the right to sue for and collect the same.

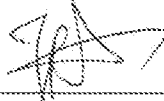
Assignor warrants itself to be the owner of the entire right, title and interest in said invention or improvements and to have the right to make this assignment, and further warrants that there are no outstanding prior assignments, licenses, or other encumbrances on the interests herein assigned. Assignor hereby covenants that no other assignment, sale, agreement or encumbrance will be made or entered into which would conflict with this sale and assignment.

Assignor further covenants that Assignee will, upon its request and at the expense of Assignee, be provided promptly with all pertinent facts and documents relating to said inventions and said Letters Patents and legal equivalents as may be known and accessible to Assignor and will testify or cause appropriate persons to testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute or have executed, to the best of its ability, and deliver to Assignee or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce any and all of said applications, said inventions and said letters patent and foreign equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

This assignment is made in accordance with the terms of the Demerger Agreement concluded and executed by both parties as of 26<sup>th</sup> day of January, 2017.

**Actelion Pharmaceuticals Ltd**

09.05 2017  
Date

  
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By: **Raluca Judele**, Authorized Signatory  
(Assignor)

**UNITED STATES OF AMERICA  
SCHEDULE A**

Country	Application No.	Application Date	Registration No.	Registration Date
United States	12/090,816	20-Oct-2006	8,067,419	29-Nov-2011
United States	13/519,938	04-Jan-2011	8,889,688	18-Nov-2014
United States	14/777,459	14-Mar-2014	9637473	2-May-17
United States	14/410,426	21-Jun-2013	9,428,456	30-Aug-2016
United States	14/892,959	28-May-2014		
United States	10/598,777	07-Mar-2005	7,714,132	11-May-2010
United States	14/412,877	04-Jul-2013	9,169,270	27-Oct-2015
United States	15/125,018	16-Mar-2015		
United States	15/127,361	17-Mar-2015		
United States	11/722,095	22-Dec-2005	8,039,474	18-Oct-2011
United States	12/376,932	02-Aug-2007	8,143,304	27-Mar-2012
United States	13/637,005	21-Mar-2011	8,697,869	15-Apr-2014
United States	13/808,857	04-Jul-2011	8,575,158	05-Nov-2013
United States	14/111,889	13-Apr-2012	9,096,595	04-Aug-2015
United States	14/367,823	20-Dec-2012	9,255,090	09-Feb-2016
United States	15/316,100	02-Jun-2015		
United States	15/510,980	14-Sep-2015		
United States	14/376,307	01-Feb-2013	9,266,876	23-Feb-2016
United States	14/906,882	21-Jul-2014		
United States	15/128,846	23-Mar-2015		
United States	12/673,413	15-Aug-2008	8,324,232	04-Dec-2012
United States	15/118,046	13-Feb-2015		
United States	12/808,137	12-Dec-2008	8,288,419	16-Oct-2012
United States	14/401,769	15-May-2013	9,139,524	22-Sep-2015
United States	14/401,774	15-May-2013	9,284,288	15-Mar-2016
United States	14/911,000	08-Aug-2014		
United States	14/757,491	24-Jun-2014		
United States	14/905,768	17-Jul-2014	9,533,964	03-Jan-2017
United States	12/809,545	17-Dec-2008	8,536,209	17-Sep-2013
United States	13/321,372	17-May-2010	8,563,714	22-Oct-2013
United States	13/376,966	07-Jun-2010	8,580,831	12-Nov-2013
United States	13/992,156	06-Dec-2011	9,346,793	24-May-2016
United States	13/988,204	16-Nov-2011	9,187,435	17-Nov-2015
United States	13/992,143	06-Dec-2011	8,846,733	30-Sep-2014
United States	13/876,447	23-Sep-2011	9,057,726	16-Jun-2015
United States	13/499,896	01-Oct-2010	8,709,734	29-Apr-2014
United States	15/021,649	12-Sep-2014		
United States	15/106,790	18-Dec-2014		
United States	15/123,184	03-Mar-2015		

**UNITED STATES OF AMERICA**

<b>Country</b>	<b>Application No.</b>	<b>Application Date</b>	<b>Registration No.</b>	<b>Registration Date</b>
United States	15/311,758	13-May-2015		
United States	12/990,927	04-May-2009	8,889,714	18-Nov-2014
United States	10/522,208	17-Jul-2003	7,985,760	26-Jul-2011
United States	10/522,207	17-Jul-2003	7,994,198	09-Aug-2011
United States	10/560,383	09-Jun-2004	8,022,219	20-Sep-2011
United States	10/560,385	09-Jun-2004	8,071,780	06-Dec-2011
United States	10/239,693	12-Mar-2001	6,703,392	09-Mar-2004
United States	12/681,802	09-Oct-2008	9,532,985	03-Jan-2017
United States	12/497,023	02-Jul-2009	8,247,560	21-Aug-2012
United States	12/810,176	23-Dec-2008	8,314,238	20-Nov-2012
United States	13/319,780	11-May-2010	8,329,706	11-Dec-2012
United States	13/818,647	23-Aug-2011	8,895,606	25-Nov-2014
United States	14/530,532	23-Aug-2011	9,000,029	07-Apr-2015
United States	14/639,934	23-Aug-2011	9,211,279	15-Dec-2015
United States	13/884,741	09-Nov-2011	9,242,970	26-Jan-2016
United States	14/000,172	17-Feb-2012	9,303,023	05-Apr-2016
United States	14/357,159	07-Nov-2012	9,150,566	06-Oct-2015
United States	14/434,997	09-Oct-2013	9,493,446	15-Nov-2016
United States	14/405,649	03-Jun-2013		
United States	14/775,474	11-Mar-2014	9,403,813	02-Aug-2016
United States	15/101,871	03-Dec-2014		
United States	15/101,832	02-Dec-2014		
United States	15/101,768	02-Dec-2014		
United States	10/598,449	23-Feb-2005	7,763,638	27-Jul-2010
United States	14/234,250	20-Jul-2012	9,221,832	29-Dec-2015
United States	14/373,338	18-Jan-2013	9,409,917	09-Aug-2016
United States	14/651,922	11-Dec-2013		
United States	14/653,363	17-Dec-2013	9,556,117	31-Jan-2017
United States	14/762,692	21-Jan-2014	9,388,197	12-Jul-2016
United States	14/762,717	21-Jan-2014	9,388,198	12-Jul-2016
United States	14/894,114	30-May-2013		
United States	15/006,285	26-Jan-2016		
United States	11/912,545	27-Apr-2006	8,048,881	01-Nov-2011
United States	12/445,352	12-Oct-2007	8,093,250	10-Jan-2012
United States	12/447,039	24-Oct-2007	8,044,055	25-Oct-2011
United States	12/745,358	28-Nov-2008	8,518,912	27-Aug-2013
United States	12/936,661	09-Apr-2009	8,058,263	15-Nov-2011
United States	12/936,664	09-Apr-2009	8,466,156	18-Jun-2013
United States	13/263,089	07-Apr-2010	8,288,385	16-Oct-2012
United States	13/265,493	21-Apr-2010	8,664,203	04-Mar-2014
United States	12/310,801	06-Sep-2007	8,580,824	12-Nov-2013



**UNITED STATES OF AMERICA**

<b>Country</b>	<b>Application No.</b>	<b>Application Date</b>	<b>Registration No.</b>	<b>Registration Date</b>
United States	12/920,656	25-Feb-2009	8,575,200	05-Nov-2013
United States	13/383,619	15-Jul-2010	8,658,675	25-Feb-2014
United States	13/980,764	18-Jan-2012	9,133,179	15-Sep-2015
United States	14/777,444	14-Mar-2014	9617250	11-Apr-17
United States	11/909,429	20-Mar-2006	7,723,378	25-May-2010
United States	12/749,180	29-Mar-2010	8,039,644	18-Oct-2011
United States	12/597,817	25-Apr-2008	8,202,885	19-Jun-2012
United States	13/125,443	21-Oct-2009	8,492,555	23-Jul-2013
United States	13/880,520	19-Oct-2011	9,296,673	29-Mar-2016
United States	13/880,486	19-Oct-2011	8,816,118	26-Aug-2014
United States	12/520,580	21-Dec-2007	8,044,044	25-Oct-2011
United States	12/595,711	10-Apr-2008	8,114,867	14-Feb-2012
United States	12/595,720	11-Apr-2008	8,217,029	10-Jul-2012
United States	12/664,828	13-Jun-2008	8,193,179	05-Jun-2012
United States	12/809,555	17-Dec-2008	9,505,750	29-Nov-2016
United States	12/918,749	19-Feb-2009	8,349,828	08-Jan-2013
United States	12/918,779	20-Feb-2009	8,349,826	08-Jan-2013
United States	12/996,360	02-Jun-2009	8,349,829	08-Jan-2013
United States	13/123,218	06-Oct-2009	8,618,092	31-Dec-2013
United States	14/096,419	06-Oct-2009	9,346,804	24-May-2016
United States	15/135,352	06-Oct-2009		
United States	13/123,708	09-Oct-2009	8,507,478	13-Aug-2013
United States	13/139,179	11-Dec-2009	8,211,890	03-Jul-2012
United States	13/263,922	08-Apr-2010	8,415,375	09-Apr-2013
United States	14/356,896	07-Nov-2012	9,079,922	14-Jul-2015
United States	14/784,602	15-Apr-2014	9,527,867	27-Dec-2016
United States	14/888,581	30-Apr-2014	9,540,399	10-Jan-2017
United States	15/516,290	14-Oct-2015		
United States	12/279,329	14-Feb-2007	7,820,655	26-Oct-2010

**PATENT**