U.S. Department of Commerce United States Patent and Trademark Office

RECORDATION FORM COVER SHEET

Our Ref.: LCM-3525-1

PATENTS ONLY

| I o the Director of the U.S. Patent and Trademark Office: Ple 1. Name of conveying party(ies): 1. Astra AB 2. Astra Plane 5 | |
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| 1. Name of conveying party(les) | ease record the attack of |
| 1 Astra AB | 2 Name of anached original documents or copy thereof |
| 2 Astra Pharmaceuticals Limited 6 | 2. Name and address of receiving party(ies): |
| 3 Limited 6 | 1 |
| 7 | 1) Name: AstraZeneca UK Limited |
| ft. | 15 Stanhone Cot- |
| 8 | City: London |
| Additional name/s of conveying party/ics attached? | State/Communication |
| 3. Nature of conveyance: | State/Country: England Zip: W1Y 6LN |
| Assissan | 2) Name |
| Security A | Street Address: |
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| meditect Serial No. 00/240 4=4 | State: Zip: |
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| recorded on Reel 011705 Frame 0156. | |
| | - |
| Execution Date: January 25, 2001 | |
| | Additional name/s & address/es attached? Yes No |
| 4. Application number(s) or patent number(s): | Yes 🖾 No |
| A. Patent Application No(s). | his assignment is being filed together with a new application. B. Patent No(s). |
| (1) 08/348,154 | B. Patent No(s). |
| (2) | (1)5,648,370 |
| (3) | (2) |
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| 5. Name and address of party to whom correspondence | attached Yes No |
| concerning document should be mailed: | 6. Total number of applications & patents involved: |
| s and amound be mailed: | applications & patents involved: |
| Name: Learney C. M. | 7. Total fee (37 CFR 3.41) |
| Name: Leonard C. Mitchard | Enclosed \$ |
| Internal Address: | |
| | Authorized to be charged to deposit account #14-1140 |
| Street Address No | 8 The Commission |
| Street Address: Nixon & Vanderhye P.C. | 8. The Commissioner is hereby authorized to charge any |
| 901 North Glebe Road | deficiency in the fee(s) filed, or asserted to be filed, or which |
| City A-V | |
| City: Arlington State: VA Zip: 22203 | |
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| Statements and ci | |
| To the best of my knowledge and belief, the foregoing information of the original document. | |
| of the original document. | on is true and correct and any attached |
| | and attached copy is a true copy |
| Leonard C. Mitchard | |
| Name of Person Signing | November 10 and |
| Reg. No. 29,009 | November 13, 2007 |
| | Date |
| | al cover sheet, attachments, and document: [3] |
| cuments to be recorded (including cover sheet) should be faxed to | [3] |
| il Ston Assignment D. (Including Cover sheet) should be faxed to | (571) 273 (0140 |

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to: Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, VA 22313-1450

PATENT REEL: 020107 FRAME: 100997 Form PTO-1595 1-31-92

Commissioner of Patents and Trademarks

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U.S. Department of Commerce Patent and Trademark Office

Our Ref.: 3525-1

Box Assignment, Washington, D.C. 20231 To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. Name and address of receiving party(ies): 1. Name of conveying party(ies): Astra AB 151 85 Sodertalje, Sweden Name: AstraZeneca UK Limited Internal Address: Street Address: 15 Stanhope Gate Additional name/s of conveying party/ies attached? City: London 3. Nature of conveyance: State/Country: England ✓ Assignment Merger Zip: WIY 6LN Security Assignment Change of Name Other Additional name/s & address/es attached? Yes No January 25, 2001 Execution Date: Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: B. Patent No(s). A. Patent Application No(s). (1) 08/512.979 --(1) (2) $(2) \overline{09/348,154}$ (3) (3) 08/468,092 Additional numbers attached Yes No 6. Total number of applications & patents involved: 5. Name and address of party to whom correspondence concerning document should be mailed: 3,360.00 7. Total fee (37 CFR 3.41) ⊠ Enclosed. Leonard C. Mitchard Authorized to be charged to deposit account #14-1140 Internal Address: 8. The Commissioner is hereby authorized to charge any deficiency in the fee(s) filed, or asserted to be filed, or which Street Address: Nixon & Vanderhye P.C. should have been filed herewith (or with any paper thereafter 1100 North Glebe Road filed in this application by this firm) to our Account No. 8th Floor 22201 14-1140. City: Arlington State: VA DO NOT USE THIS SPACE Statements and signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. March 30, 2001 Leonard C. Mitchard Name of Person Signing Reg. No. 29,009 Total number of pages including original cover sheet, attachments, and document: [17]

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Commissioner of Patents and Trademarks

U.S. Department of Commerce Patent and Trademark Office

Our Ref.: 3525-1

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RECORDATION FORM COVER SHEET

PATENTS ONLY

| Box Assignment, Washington, D.C. 20231 | | |
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| 1. Name of conveying party(ics): | | |
| Astra Pharmaceuticals Limited | | |
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| Hertfordshire, England WD4 8DH | | |
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| (5) 08/776,770 | | |
| (6) 08/793,713 | | |
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Commissioner of Patents and Trademarks

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RECORDATION FORM COVER SHEET

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Our Ref.: 3525-1

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REEL: 011706 FRAME: 0158 REEL: 020107 FRAME: 0100

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PATENTS ONLY

| Commissioner of Patents and Trademarks Box Assignment, Washington, D.C. 20231 | | |
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| 1. Name of conveying party(ies): | | · |
| 2. Name: Street Address: City: State: Zip: | | |
| 4. Application number(s) or patent number(s): A. Patent Application No(s). (10 08/860,899 (11) 08/894,448 (12) 08/011,816 (13) 08/666,120 (14) 08/913,060 (15) 08/918,670 | B. Patent No(s). | |

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PATENT REEL: 011705 FRAME: 0159 REEL: 020107 FRAME: 0101

Our Ref.: 3525-1

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RECORDATION FORM COVER SHEET

PATENTS ONLY

Commissioner of Patents and Trademarks Box Assignment, Washington, D.C. 20231 1. Name of conveying party(ies): 2. Name: Street Address: City: State: Zip: 4. Application number(s) or patent number(s): A. Patent Application No(s). B. Patent No(s). (16)09/011,777 (17)09/011,992 (18)09/011,780 (19)09/029,831 (20)09/068,520 (21)09/068,522

4 of 15

PATENT REEL: 0117057FRAME: 0160 REEL: 020107 FRAME: 0102

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Our Ref.: 3525-1

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| (25)09/068,469 | | |
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REEL: 011766 FRAME: 0161
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| 1. Name of conveying party(ies): | | |
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| 2. Name: Street Address: City: State: Zip: | | |
| 4. Application number(s) or patent number(s): | | |
| A. Patent Application No(s). (28)09/117,229 (29)09/091,187 (30)09/117,426 (31)09/125,174 (32)09/155,612 (33)09/125,165 | B. Patent No(s). | |

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REEL: 0117057FFAME: 0162 REEL: 020107 FRAME: 0104

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Our Ref.: 3525-1

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| 2. Name: Street Address: Ciry: State: Zip: | |
| 4. Application number(s) or patent number(s): | |
| A. Patent Application No(s). (34)09/125,899 (35)09/155,023 (36)09/155,562 (37)09/155,567 (38)09/155,091 (39)09/180,134 | B. Patent No(s). |

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PATENT REEL: 0117**87AFEANT**E: 0163 **REEL: 020107 FRAME: 0105** Commissioner of Patents and Trademarks

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Our Ref.: 3525-1

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| (40)09/145,281 | |
| (41)09/146,046 | |
| (42)09/146,047 | |
| (43)09/146,048 | |
| (44)09/171,801 | |
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REEL: 011705/FFEAME: 0164 REEL: 020107 FRAME: 0106

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| 4. Application number(s) or patent number(s): | ,. | |
| A. Patent Application No(s). | B. Patent No(s). | |
| (46)09/214,757 | | |
| (47)09/202,140 | | |
| (48)09/201,724 | | |
| (49)09/214,755 | | |
| (50)09/230,464 | | |
| (51)09/230,478 | | |

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REEL: 0117054FREANTE: 0165 **REEL: 020107 FRAME: 0107**

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Our Ref.: 3525-1

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| Name of conveying party(ies): | |
| 2. Name: Street Address: City: State: Zip: | |
| 4. Application number(s) or patent number(s): A. Patent Application No(s). (52)09/230,511 (53)09/254,622 (54)PCT/SE99/00154 (55)09/297,375 (56)09/331,904 (57)09/331,870 | B. Patent No(s). |

299971

PATENT

REEL: 0117054TEMME: 0166 **REEL: 020107 FRAME: 0108** Fax:703-816-4100

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P.16

Our Ref.: 3525-1

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RECORDATION FORM COVER SHEET

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| Commissioner of Patents and Trademarks Box Assignment, Washington, D.C. 2023 I | | |
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| I. Name of conveying party(ies): | | |
| 2. Name: Street Address: City: State: Zip: | | |
| 4. Application number(s) or patent number(s): A. Patent Application No(s). (58)PCT/SE99/00650 (59 09/355,026 (60) 09/355,105 (61) 09/380,988 (62) 09/341,989 (63) 09/380,379 | B. Patent No(s). | |

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PATENT REEL: 0117**03/4FIEANT**E: 0167 REEL: 020107 FRAME: 0109

Our Ref.: 3525-1

Form PTO-1595 1-31-92

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RECORDATION FORM COVER SHEET

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| Commissioner of Patents and Trademarks | | |
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| Box Assignment, Washington, D.C. 20231 | | |
| Name of conveying party(ies): | | |
| 2. Name: Street Address: City: State: Zip: | | |
| 4. Application number(s) or patent number(s): A. Patent Application No(s). (64)09/380,294 (65)PCT/SE99/01277 (66)09/403,392 (67)09/402,837 (68)09/403,419 (69)PCT/SE99/01600 (70)PCT/SE99/01630 | B. Patent No(s). | |

12 of 15

299971 PATENT REEL: 011708AFFENNTE: 0168 **REEL: 020107 FRAME: 0110**

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Our Ref.: 3525-1

Form PTO-1595 1-31-92

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| Box Assignment, Washington, D.C. 20231 1. Name of conveying party(ies): | | | | |
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| 2. Name: Street Address: City: State: Zip: | | | | |
| 4. Application number(s) or patent number(s): A. Patent Application No(s). (71)09/403,937 (72)PCT/SE99/01632 (73)09/424,336 (74)09/424,334 (75)09/424,335 (76)29/111,474 | B. Patent No(s). | | | |

13 of 15

299971 PATENT REEL: 011708AFRENIE: 0169

REEL: 020107 FRAME: 0111

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Our Ref.: 3525-1

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U.S. Department of Commerce Patent and Trademark Office

RECORDATION FORM COVER SHEET

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| 1. Name of conveying party(ies): | | | | | |
| 2. Name: Street Address: City: State: Zip: | | | | | |
| 4. Application number(s) or patent number(s): | | | | | |
| A. Patent Application No(s). (77) 09/410,042 (78) 09/410,066 (79) 09/410,067 (80) 09/410,068 (81) 09/410,069 (82) 09/411,162 | B. Patent No(s). | | | | |

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PATENT
REEL: 01170**3/4TEAM**E: 0170
REEL: 020107 FRAME: 0112

Fax:703-816-4100

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Our Ref.: 3525-1

Form PTO-1595 1-31-92

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U.S. Department of Commerce Patent and Trademark Office

RECORDATION FORM COVER SHEET

PATENTS ONLY

Commissioner of Patents and Trademarks

Box Assignment, Washington, D.C. 20231

1. Name of conveying party(ies):

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4. Application number(s) or patent number(s):

A. Patent Application No(s).
(83) 09/424,332

B. Patent No(s).

15 of 15

PATENT 299971

REEL: 0117054716ANTE: 0171 REEL: 020107 FRAME: 0113

ASSIGNMENT

WHEREAS, Astra AB and Astra Pharmaceuticals Limited (hereinafter collectively ASSIGNOR), a corporation duly organized and existing under the laws of Sweden and doing business at 151 85 Sodertalje, Sweden, and a corporation duly organized and existing under the laws of England and doing business at Home Park, Kings Langley, Hertfordshire, England WD4 8DH, respectively, has been assigned all right, title and interest in the U.S. patents, U.S. patent applications and PCT International applications listed in the attached Schedule A;

AND WHEREAS, AstraZeneca UK Limited (hereinafter ASSIGNEE), a corporation duly organized and existing under the laws of England and doing business at 15 Stanhope Gate, London, England W1Y 6LN, is desirous of acquiring all right, title and interest in the U.S. patents, U.S. patent applications and PCT International Applications listed in the attached Schedule A.

NOW, THEREFORE, in consideration of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the said ASSIGNOR by these presents hereby sells, assigns, and transfers unto the said ASSIGNEE, its successors, assigns, and legal representatives, the full and exclusive right to the said U.S. patents, U.S. patent applications and PCT International Applications listed in the attached Schedule A. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any Letters Patents on the U.S. patent applications listed in

PATENT ⁴⁵⁵⁰⁵¹
REEL: 01170**3AFFEM/I**E: 0172
REEL: 020107 FRAME: 0114

8:14

Schedule A to ASSIGNEE, for its interest as ASSIGNEE, for the sole use and behoof of ASSIGNEE, its successors, assigns, and legal representatives.

And, ASSIGNOR hereby agrees to execute any papers by ASSIGNEE, its successors, assigns, and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the U.S. patents, U.S. patent applications and PCT International Applications listed in the attached Schedule A hereby transferred and for maintaining any resulting patents.

I am authorized to execute this ASSIGNMENT on behalf of ASSIGNOR.

| Transited this | day of | 25 JAN | 20 01 | , 20097.026 |
|----------------|--------|--------|--------------|-------------|
| Executed this | day of | *** | | |

ASTRA AB and ASTRA

PHARMACEUTICALS LIMITED

By:

David E/Giles

Director IP Services, and authorized to sign

on behalf of ASSIGNOR

Attachment: Schedule A

- 2 -

PATENT

REEL: 0117**05ДПЕЛИЕ**: 0173

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REEL: 020107 FRAME: 0115

<u>ASSIGNMENT</u>

WHEREAS, Astra AB and Astra Pharmaceuticals Limited (hereinafter collectively ASSIGNOR), a corporation duly organized and existing under the laws of Sweden and doing business at 151 85 Sodertalje, Sweden, and a corporation duly organized and existing under the laws of England and doing business at Home Park, Kings Langley, Hertfordshire, England WD4 8DH, respectively, has been assigned all right, title and interest in the U.S. patents, U.S. patent applications and PCT International applications listed in the attached Schedule A;

AND WHEREAS, AstraZeneca UK Limited (hereinafter ASSIGNEE), a corporation duly organized and existing under the laws of England and doing business at 15 Stanhope Gate, London, England W1Y 6LN, is desirous of acquiring all right, title and interest in the U.S. patents, U.S. patent applications and PCT International Applications listed in the attached Schedule A.

NOW, THEREFORE, in consideration of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the said ASSIGNOR by these presents hereby sells, assigns, and transfers unto the said ASSIGNEE, its successors, assigns, and legal representatives, the full and exclusive right to the said U.S. patents, U.S. patent applications and PCT International Applications listed in the attached Schedule A. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any Letters Patents on the U.S. patent applications listed in

Nov 13 2007 8:10

Schedule A to ASSIGNEE, for its interest as ASSIGNEE, for the sole use and behoof of ASSIGNEE, its successors, assigns, and legal representatives.

And, ASSIGNOR hereby agrees to execute any papers by ASSIGNEE, its successors, assigns, and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the U.S. patents, U.S. patent applications and PCT International Applications listed in the attached Schedule A hereby transferred and for maintaining any resulting patents.

I am authorized to execute this ASSIGNMENT on behalf of ASSIGNOR.

| Executed this day of | 25 JAN 2001 , 2009 |
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ASTRA AB and ASTRA PHARMACEUTICALS LIMITED

By:

David EcGiles

Directed IP Services, and authorized to sign

on behalf of ASSIGNOR

Attachment: Schedule A