07-01-1999 FORM PTO-1595 (Modified) (Rev. 6-93) Patent and Trademark Office OMB No. 0651-0011 (exp.4/94) Copyright 1994-97 LegalStar 30N 2 8 1939 P08/REV02 Tab settings -> -> -> 101080963 To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): 2. Name and address of receiving party(ies): SANICOLA-NADEL, Michele Name: BIOGEN, INC. **HESSION**, Catherine CATE, Richard L. Internal Address: Additional names(s) of conveying party(ies) ☐ Yes ☒ No 3. Nature of conveyance: Street Address: 14 Cambridge Center ☐ Assignment □ Merger ☐ Security Agreement ☐ Change of Name ☑ Other Resubmittal of Document ID No.: 100998690 City: Cambridge State: ZIP: 02142 Execution Date: 4. Application number(s) or registration numbers(s): If this document is being filed together with a new application, the execution date of the application is: A. Patent Application No.(s) B. Patent No.(s) U.S.S.N. 09/187,906 filed 11/06/98 5. Name and address of party to whom correspondence 6. Total number of applications and patents involved: concerning document should be mailed: Gillian M. Fenton, Esq. Name: \_ 7. Total fee (37 CFR 3.41):....\$ 40.00 Internal Address: ☐ Enclosed - Any excess or insufficiency should be credited or debited to deposit account Authorized to be charged to deposit account Street Address: 14 Cambridge Center 8. Deposit account number: 02-2327 City: \_\_\_Cambridge \_ State: MA ZIP: 02142 06/30/1999 DNBUYEN 00000118 022327 09187906 DO NOT USE THIS SPACE 40.00 CH Statement 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. UNE 1999 Gillilan M. Fenton Name of Person Signing Signature Date Total number of pages including cover sheet, attachments, and document:

PATENT

REEL: 010055 FRAME: 0818

In Re Applicatic  100998690  SANICOLA-NADEL, Michele; CATE, Richard L.; and HESSTON, Catherine  Serial No.  Filing Date  RET LIGAND (RetL) FOR STIMULATING NEURAL AND RENAL GROWTH  3-13-9  To THE ASSISTANT COMMISSIONER FOR PATENTS:  Transmitted herewith is:  Transmitted herewith is:  Transmitted letter, in duplicate, including Authorization to Charge Deposit Account Assignment Form  No additional fee is required.  A check in the amount of  The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No.  as described below. A duplicate copy of this sheet is enclosed.  Charge the amount of  Charge any additional fee required.  Charge any additional fee required.  All Mark Mark Mark Mark Mark Mark Mark Mark		03-26-1999		
SANICOLA-NADEL, Michele; CATE, Richard L.; and HESSION, Catherine  Serial No. Filing Date				
Serial No. Filing Date  Serial No. Filing Date  9/187,906  66 November 1998  To the Assistant Commissioner is hereby authorized to charge and credit Deposit Account No.  10 The above identified application.  No additional fee is required.  A check in the amount of is attached.  The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No.  10 Charge the amount of Charge the Assistant Commissioner to repair this decimant of the Island Sighature  Dated: 15 March 111  I certify that this document and fee is being deposit Assistant Commissioner for Patents, Washington, I 20231.  The Assistant Commissioner for Patents, Washington, I 20231.	In Re Applicatic	100998690	#22 #12 12	
Serial No. Filing Date  99/187,906  96 November 1998  Title:  RET LIGAND (RetL) FOR STIMULATING NEURAL AND RENAL GROWTH  3 - N - 9  TO THE ASSISTANT COMMISSIONER FOR PATENTS:  Transmitted herewith is:  Transmitted herewith is:  Transmitted letter, in duplicate, including Authorization to Charge Deposit Account Assignment Form  No additional fee is required.  A check in the amount of is attached.  The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No.  as described below. A duplicate copy of this sheet is enclosed.  Charge the amount of 19 Charge the amount of 19 Charge the amount of 19 Charge any additional fee required.  Dated: 15 March 1911  I certify that this document and fee is being deposit on first class mail under 30 C.Pst. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.  The Assistant Commissioner for Patents, Washington, D. 20231.  The Assistant Commissioner for Patents, Washington, D. 20231.	SA	NICOLA-NADEL, Michele; CATE	, Richard L.; and HESSION, Ca	therine
Title:  RET LIGAND (RetL) FOR STIMULATING NEURAL AND RENAL GROWTH  3 - M - 97  TO THE ASSISTANT COMMISSIONER FOR PATENTS:  Transmitted herewith is:  Transmitted letter, in duplicate, including Authorization to Charge Deposit Account Assignment Form  in the above identified application.  No additional fee is required.  A check in the amount of is attached.  The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 02-2327 as described below. A duplicate copy of this sheet is enclosed.  Charge the amount of Credit any overpayment.  Charge any additional fee required.  Dated: 15 March 111  I certify that this document and fee is being deposit on with the U.S. Postal Service in the commissioner in Patents, Washington, E. 20231.  The Assistant Commissioner for Patents, Washington, E. 20231.	Serial No.	Filing Date	Examiner	Group Art Unit
To the assistant commissioner is hereby authorized to charge and credit Deposit Account No.    Charge the amount of   is attached.     Charge any additional fee required.	09/187,906	06 November 1998		·
To THE ASSISTANT COMMISSIONER FOR PATENTS:  Transmitted herewith is:  Transmittal letter, in duplicate, including Authorization to Charge Deposit Account Assignment Form  in the above identified application.  No additional fee is required.  A check in the amount of is attached.  The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 02-2327 as described below. A duplicate copy of this sheet is enclosed.  Charge the amount of Secretary overpayment.  Credit any overpayment.  Charge any additional fee required.  Dated: 15 March 1999  I certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. (2021).  The Assistant Commissioner of Patents, Washington, D. (2021).  The Assistant Commissioner of Patents, Washington, D. (2021).	Title:			
Transmitted herewith is:  Transmittal letter, in duplicate, including Authorization to Charge Deposit Account Assignment Form  In the above identified application.  No additional fee is required.  A check in the amount of is attached.  The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 02-2327 as described below. A duplicate copy of this sheet is enclosed.  Charge the amount of  Credit any overpayment.  Charge any additional fee required.  Dated: 15 March 1999  I certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.  The Assistant Commissioner for Patents, Washington, D. 20231.	RE	T LIGAND (RetL) FOR STIMULA	ATING NEURAL AND RENAL	GROWTH
Transmitted herewith is:  Transmittal letter, in duplicate, including Authorization to Charge Deposit Account Assignment Form  In the above identified application.  No additional fee is required.  A check in the amount of is attached.  The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 02-2327 as described below. A duplicate copy of this sheet is enclosed.  Charge the amount of  Credit any overpayment.  Charge any additional fee required.  Dated: 15 March 1999  I certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.  The Assistant Commissioner for Patents, Washington, D. 20231.	3-	12-99		
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in the above identified application.  No additional fee is required. A check in the amount of is attached. The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 02-2327 as described below. A duplicate copy of this sheet is enclosed. Charge the amount of Credit any overpayment. Charge any additional fee required.  Dated: 15 March 1999    Certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.    Marquel Amuque	Transmitted herewith is:			
in the above identified application.  No additional fee is required. A check in the amount of is attached. The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 02-2327 as described below. A duplicate copy of this sheet is enclosed. Charge the amount of Caredit any overpayment. Charge any additional fee required.  Dated: 15' March 1111    Certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.			rization to Charge Deposit Accor	unt
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No additional fee is required.   A check in the amount of   is attached.   The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No.   02-2327     as described below. A duplicate copy of this sheet is enclosed.   Charge the amount of   Credit any overpayment.   Charge any additional fee required.   Dated:   15" March   1111     Certify that this document and fee is being deposit on   with the U.S. Postal Service     I certify that this document and fee is being deposit on   with the U.S. Postal Service     Assistant Commissioner for Patents, Washington, D. 20231.   Marqual Quality				
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□ Charge the amount of □ Credit any overpayment. □ Charge any additional fee required. □ Charge any additio				count No. 02-2327
Credit any overpayment.  Charge any additional fee required.  Dated: /5 March / 1919  I certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.  Marquel Grand Gran			is enclosed.	
Dated: 15 March 1919    Certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.    March 1919	🛚 Credit an	y overpayment.		
I certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.	☑ Charge any additional fee required.			
I certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.		. 1		
I certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.				
I certify that this document and fee is being deposit on with the U.S. Postal Service first class mail under 37 C.F.R. 1.8 and is addressed to Assistant Commissioner for Patents, Washington, D. 20231.	Mille Mark 1999			
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margaret april			first class mail under	37 C.F.R. 1.8 and is addressed to the
Signature of Person Mailing Correspondence	Assistant Commissioner for Patents, Washington, D.C. 20231.			
Signature of Person Mailing Cortespondence			margar	el apuerre
			Signature of F	erson Mailing Corte pondence
Margaret Apruzzese	ec:			
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## Assignment of Rights, Title and Interest in Invention (Multiple inventors; single assignee)

This is	an Assignment of the following rights, title and interest: (check all that apply):		
<u>X</u>	United States of America rights, title and interest in and to all inventions described in:		
_X_	All foreign rights, title and interest in and to all inventions described in:		
<u>X</u>	United States Patent Application Serial No09/187,906		
	Date of Execution:on even date herewith		
	Date of Filing: 06 November 1998		
	United States Patent No(s):		
	International (PCT) Patent Application Serial No		
	Other (specify)		
Title of the Invention			
F	RET LIGAND (RetL) FOR STIMULATING NEURAL AND RENAL GROWTH		

Inventors (assignors)

NAME	ADDRESS	
SANICOLA-NADEL, Michele	4 Maple Road, Winchester, Massachusetts 01890 USA	
CATE, Richard L.	64 Arrowhead Road Weston, Massachusetts 02193 USA	
HESSION, Catherine	35 Otis Hill Road Hingham, Massachusetts 02043 USA	

PATENT REEL: 010055 FRAME: 0820 Assignee(s)

NAME	ADDRESS	
BIOGEN, INC.	14 Cambridge Center Cambridge, Massachusetts 02142 USA	

Whereas, we, the above-identified Inventors, have invented certain new and useful improvements in the invention(s) identified above and described in the above-identified patent application(s) and/or patent(s) (hereinafter referred to as the "Inventions");

And, whereas we desire to assign our above-identified rights, title and interest in and to all Inventions described in the above-identified patent(s) and patent application(s) to the above-identified Assignee;

Now, this indenture witnesseth, that for good and valuable consideration, the receipt whereof is hereby acknowledged;

We have and do hereby assign, sell and transfer our above-identified rights, title and interest in and to said Inventions, said application(s) as identified above, including any divisions, continuations, and continuations-in-part thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted or have granted for said Invention, and in and to any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all priority rights, Convention rights, and other benefits accruing or to accrue to us with respect to the filing of applications for patents or securing of patents in the United States and countries foreign thereto, unto said Assignee, its successors and assigns, said applications and Letters Patent to be held and enjoyed by said Assignee for its own use and on of and for its successors and assigns, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment not been made.

And we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and all competent authorities of all countries foreign thereto to issue such Letters Patent as have been or shall be granted on said Inventions to said Assignee, its successors and assigns, as assignee of the whole right, title and interest thereto:

And we further agree to sign and execute all necessary and lawful documents, including applications for foreign patents, for filing divisions, continuations and continuations-in-part of said application(s) for Letters Patent, and/or for obtaining any reissues, reexamination or extension of any Letters Patent which may be granted for the aforesaid Inventions, as the Assignee may from time to time require and prepare at its own expense.

It is our intention that this Assignment be effective and all rights transferred herein shall be considered to have vested in said Assignee on the filing date(s) of the above-identified patent application(s) or Letters Patent, as set forth in this Assignment.

PATENT REEL: 010055 FRAME: 0821

## **Notarization**

(Although notarization is not necessary, it will be considered prima facie evidence of execution pursuant to 35 U.S.C. 261.)

Executed this 8th day of MARCH, in the year 1999 at Cambridge, MA.  Multell Suncka-Made (Signature of Inventor)			
State of Massachusetts			
County of MIDDLESEX, SS.			
Before me personally appeared Michele Sanicola-Nadel Who acknowledged the foregoing instrument to be a free act and deed and also represented that he or she is authorized to execute the same this 8 <sup>+n</sup> day of march in the year / 999  March Mumaful (Notary Public)			
Notarization  (Although notarization is not necessary, it will be considered prima facie evidence of execution pursuant to 35 U.S.C. 261.)			
Executed this $10^{+n}$ day of MARCA; in the year $1999$ at Cambridge, MA.			
Redud L Cate			
(Signature of Inventor)			

Before me personally appeared Richard L. Cate who acknowledged the foregoing instrument to be a free act and deed and also represented that he or she is authorized to execute the same this  $\rho$  day of  $\rho$ , in the year  $\rho$ 

State of Massachusetts

County of MIDDLESEX, 55.

(Notary Public)

PATENT REEL: 010055 FRAME: 0822

Notarization  (Although notarization is not necessary, it will be considered prima facie evidence of execution pursuant to 35 U.S.C. 261.)			
Executed this 5 day of Much, in the year 1999  At Cambridge MA.  Cotherine Hession  Who acknowledged the foregoing instrument to be a free act and deed and also			
represented that he or she is authorized to execute the same this 5 <sup>th</sup> day of MARCH, in the year 1999.  (Notary Public)			
Notarization  (Although notarization is not necessary, it will be considered prima facie evidence of execution pursuant to 35 U.S.C. 261.)			
Executed this day of , in the year At			
State of (Signature of Inventor)			
County of			
Before me personally appeared Who acknowledged the foregoing instrument to be a free act and deed and also represented that he or she is authorized to execute the same this day of , in the year			

PATENT REEL: 010055 FRAME: 0823

(Notary Public)

## TRANSMITTAL LETTER

(General - Patent Pending)		111	A008 CIP	
In Re Application Of:	SANICOLA-NADEL, Michele; CA	TE, Richard L.; and HESSION, Ca	atherine	
Serial No. 09/18 <b>7</b> ,906	Filing Date 06 November 1998	Examiner	Group Art Unit 1646	
Title: RET LIGA	.ND (RetL) FOR STIMULATING	NEURAL AND RENAL GROWTI	H	
	TO THE ASSISTANT COM	MMISSIONER FOR PATENTS:		
Recordation Fo		arge Deposit Account, (in duplicate No. 100998690)	)	
as described belo ☐ Charge t ☐ Credit ar	e is required. mount of is atta	to charge and credit Deposit Acco	ount No.	
Juliash	Signature	on	ument and fee is being deposited with the U.S. Postal Service as ' C.F.R. 1.8 and is addressed to the	

20231.

Signature of Person Muling Correspondence

Margaret Apruzzese

Typed or Printed Name of Person Mailing Correspondence

cc:

TRANSMITTAL LETTER (General - Patent Pending)			Docket No. A008 CIP	
In Re Application Of:				
SA	ANICOLA-NADEL, Michele; CA	TE, Richard L.; and HESSION	N, Catherine	
Serial No.	Filing Date	Examiner	Group Art Unit	
09/187,906	06 November 1998		1646	
Title: RET LIGAN	Title:  RET LIGAND (RetL) FOR STIMULATING NEURAL AND RENAL GROWTH			
	TO THE ASSISTANT COM	MMISSIONER FOR PATENTS	<u>3:</u>	
Transmitted herewith is:				
Transmittal letter, including Authorization to Charge Deposit Account, (in duplicate) Recordation Form Cover Sheet Assignment Form (Resubmission of Document ID No. 100998690)				
in the above identified a	pplication.			
as described belo ☐ Charge th ☐ Credit any	·	to charge and credit Deposit	Account No.	
Julia M	Melling mature	on first class mail und	document and fee is being deposited with the U.S. Postal Service as ler 37 C.F.R. 1.8 and is addressed to the ssioner for Patents, Washington, D.C.	
		Malga Signifure	ell Garell & ele- of Person Mulling Correspondence	

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**RECORDED: 06/28/1999** 

cc:

P16A/REV01

Margaret Apruzzese

Typed or Printed Name of Person Mailing Correspondence