Client Code: GTSYS.00



101056081 lease record the attached original documents or copy thereof. MMISSIONER FOR PAI TO THE ASSISTANT CO

Name of conveying party(ies): (If multiple assignors, list numerically)

1. Philip L. Felgner 2. Olivier Zelphati

Additional name(s) of conveying party(ies) attached?

Yes

No (X)

2. Name and address of receiving party(ies):

Name: Gene Therapy Systems

Internal Address:

()

Street Address: 10190 Telesis Court City: San Diego State: CA ZIP: 92121

Additional name(s) of receiving party(ies) attached?

Yes

(X)

No

Nature of conveyance:

(X) Assignment

() Merger

Security Agreement

Change of Name

Other: ()

Execution Date: (If multiple assignors, list execution dates in numerical order corresponding to numbers indicated in 1 above) 1. 4/19/99

2. 4/19/99

Application number(s) or Patent number(s):

Application(s) filed herewith Execution Date(s): ()

Patent Application No.: 09/224,818 (X) Filing Date: December 30, 1998

Patent No .: () Issue Date:

Additional numbers attached? ()

Yes

(X)

No

Name and address of party to whom correspondence concerning document should be mailed:

Neil S. Bartfeld, Ph.D. Name:

KNOBBE, MARTENS, OLSON & BEAR, LLP

Customer No. 20,995

Internal Address: Sixteenth Floor

Street Address: 620 Newport Center Drive City: Newport Beach State: CA ZIP: 92660

Attorney's Docket No.: GTSYS.001C1

7. Total fee (37 CFR 3.41): \$40

(X) Enclosed

Authorized to be charged to deposit account if any additional fees are required, or to credit any overpayment

8. Deposit account number: 11-1410

Please charge this account for any additional fees which may be required, or credit any overpayment to this account.

Total number of applications and patents involved: 1

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.

Neil S. Bartfeld, Ph.D. Name of Person Signing

39,901

Registration No.

Total number of pages including cover sheet, attachments and document: 3

Mail documents to be recorded with required cover sheet information to:

06/03/1999 MTHAI1

00000157 09224618

01 FC:581

Assistant Commissioner for Patents Box Assignments Washington, D.C. 20231

S:\DOCS\NSB\NSB-2125.DOC 102798

> **PATENT** REEL: 009990 FRAME: 0100

Application No.: 09/224,818 Client Code: GTSYS.001C1 Filing Date: December 30, 1998 Page 1

ASSIGNMENT

WHEREAS, We, Philip L. Felgner, a United States citizen, residing at 5412 Las Palomas, P.O. Box 3392, Rancho Santa Fe, CA 92067, and Olivier Zelphati, a French citizen, residing at 8840 Via La Jolla Drive, La Jolla, CA 92037, have invented certain new and useful improvements in a CHEMICAL MODIFICATION OF DNA USING PNA CONJUGATES for which we have filed an application for Letters Patent in the United States, Application No. 09/224,818, filed on December 30, 1998;

AND WHEREAS, Gene Therapy Systems (hereinafter "ASSIGNEE"), a Delaware Corporation, with its principal place of business at 10190 Telesis Court, San Diego, CA 92121, desires to acquire our entire right, title, and interest in and to the said improvements and the said Application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said inventors, do hereby acknowledge that we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title, and interest throughout the world in, to and under the said improvements, and the said application and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and applications for Letters Patent which may hereafter be filed for said improvements in any country or countries foreign to the United States, and all Letters Patent which may be granted for said improvements in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and we hereby authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said improvements to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we will communicate to the said ASSIGNEE, successors, legal representatives and assigns, any facts known to us respecting said improvements, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said improvements in all countries.

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 19 day of 1911 1999

Philip L. Felgner

STATE OF California ss.

On 199, before me, Elizabeth fowler, personally appeared Philip L. Felgner personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity(ies), and that by his signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

[SEAL]



Notary Signature

PATENT REEL: 009990 FRAME: 0101

PATENT

Application No.: 09/224,818 Client Code: GTSYS.001C1
Filing Date: December 30, 1998 Page 2

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 19 day of 1999

STATE OF CALLS NIC. SS. COUNTY OF SON DIEGO SS.

on 4-19-79, before me, 2 and 10 personally appeared Olivier Zelphati personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity(ies), and that by his signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

RECORDED: 06/01/1999

[SEAL]

ELIZABETH FOWLER
Comm. # 1185113
NOTARY PUBLIC - CALIFORNIA
San Diego County
My Comm. Expires May 29, 2002

S:\DOCS\NSB\NSB-2798.DOC 041599

PATENT

REEL: 009990 FRAME: 0102