

# 07-11-01

# PROVISIONAL APPLICATION COVER SHEET

request for filing a PROVISIONAL APPLICATION under 37 CFR 1.53 (b)(2).

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Symonds	Geoffrey	I	P	15 Hamilton Street, Rose Bay, NSW 2029 Australia		
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Respectfully submitted.  IGNATURE  TYPED of PRINTED NAM	a My / f	: Lers Gershik	lys.	Date 07 /10 / 0  REGISTRATION  (if appropriate)		
X Additional inventors are	being named on s	coarately numt	ocred sheets a			

# PROVISIONAL APPLICATION FILING ONLY

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### CONTINUATION OF INVENTORS

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#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Geoffrey P. Symonds et al.

Serial No. : Not Yet Known

Filed : Herewith

For : RIBOZYMES TARGETING THE RETROVIRAL PACKAGING

SEQUENCE EXPRESSION CONSTRUCTS AND RECOMBINANT RETROVIRUSES CONTAINING SUCH

CONSTRUCTS

1185 Avenue of the Americas New York, New York 10036

July 10, 2001

Assistant Commissioner for Patents Washington, D.C. 20231

Box: Provisional Application

SIR:

# EXPRESS MAIL CERTIFICATE OF MAILING FOR THE ABOVE-IDENTIFIED APPLICATION

"Express Mail" mailing label number: <u>EL 278 886 345 US</u>
Date of Deposit: <u>July 10, 2001</u>

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Box CPA, Washington, D.C. 20231.

Printed Name:

15 COA

Respectfully submitted,

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## Application for United States Letters Patent

### To all whom it may concern:

Be it known that, we, Geoffrey Symonds, et al.

have invented certain new and useful improvements in RIBOZYMES TARGETING THE RETROVIRAL PACKAGING SEQUENCE EXPRESSION CONSTRUCTS AND RECOMBINANT RETROVIRUSES CONTAINING SUCH CONSTRUCTS

of which the following is a full, clear and exact description.



Dkt 65482-PRO/JPW/GJG

RIBOZYMES TARGETING THE RETROVIRAL PACKAGING SEQUENCE EXPRESSION CONSTRUCTS AND RECOMBINANT RETROVIRUSES CONTAINING SUCH CONSTRUCTS

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# BACKGROUND OF THE INVENTION: RETROVIRUSES

Retroviruses are viruses with RNA as their genomic material. They use host cells for their replication by stably integrating a cDNA copy of their genomic RNA into the host cell genome (Miller, 1992, and Brown, 1987). genome consists of a Long Terminal Repeat (LTR) at each end (5' and 3') of the proviral cDNA form of the virus. Proceeding from 5' to 3', the LTR consists of U3 and U5 short sequence R. linked by a sequences Transcription commences within the 5' LTR and terminates at a polyadenylation site within the 3' LTR. Adjacent to the LTRs are short sequences necessary for priming of positive and negative strand DNA synthesis by reverse transcriptase. Splice donor and acceptor sequences are also present within the genome and these are involved in the production of sub-genomic RNA species. Directly proximal to the 5' LTR is a sequence necessary for the encapsidation of viral RNA into virions. This is termed the Psi packaging sequence. an essential and specific signal ensuring that the viral RNA



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