Abstract: Provided are safe, non-invasive, non-viral delivery methods for providing a nucleic acid into the neuronal and non-neuronal cells of the central nervous system (CNS) of a subject to protect neuronal and non-neuronal cells from ischemic or traumatic injury, wherein the nucleic acid encodes therapeutic proteins, specifically providing rapid transient expression and widespread distribution for in vitro or in vivo applications. Further provided are methods for the intrathecal delivery to the cerebrospinal fluid (CSF) of a neuroprotective gene sequence, e.g., a heat shock protein (HSP), complexed with cationic lipid compositions to achieve such delivery, and the complexes used therein.
(88) Date of publication of the international search report:
20 September 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
INTERNATIONAL SEARCH REPORT

International application No
PCJUS 06/48093

A CLASSIFICATION OF SUBJECT MATTER

IPC(8)- A61K 9/127; B32B 9/00, C12N 15/88

USPC: 424/150, 428/402 2; 435/458

According to International Patent Classification (IPC) or to both national classification and IPC

B FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

USPC 424/150, 428/402 2, 435/458

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Hum Gene Ther 10 February 2003 (10 02 2003), Vol 14, No 3 pages 191-202

Electronic data base consulted during the international search (name of data base and where practicable, search terms used)

PUBWEST(PGPB USPT,USOC,EPAB,JPA), Google, PubWed

Search terms: nucleic acid, lipid, cationic, lipoplex

C DOCUMENTS CONSIDERED TO BE RELEVANT

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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
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Further documents are listed in the continuation of Box C

Date of the actual completion of the international search
9 May 2007 (09 05 207)

Date of mailing of the international search report
18 JUL 2007

Authorized officer

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P O Box 1450, Alexandria, Virginia 22313-1450
Facsimile No 571-273-3201

Form PCT/ISA/210 (second sheet) (April 2005)
**INTERNATIONAL SEARCH REPORT**

**International application No**

PCT/US 06/48093

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<td>Claims Nos because they relate to subject matter not required to be searched by this Authority, namely</td>
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<td>X Claims Nos 4-12 and 16-17 because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)</td>
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**Remark on Protest**

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation
- No protest accompanied the payment of additional search fees

Form PCT/ASA/210 (continuation of first sheet (2)) (April 2005)