Title: STABILIZATION OF VACCINES BY LYOPHILIZATION

Abstract: This invention provides pharmaceutical compositions, such as vaccines, and methods of making and using such compositions.
# INTERNATIONAL SEARCH REPORT

**International application No.**

PCT/US 07/23421

## A. CLASSIFICATION OF SUBJECT MATTER

- **IPC(B):** A61K 39/12, C12N 7/00 (2008.01)
- **USPC:** 242/218.1, 435/235.1

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 – 242/218.1, 435/235.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

WEST - PGDB, USPT, USOC, EPAB, JPAB; Dialog Classic Files ? 654, 652, 351, 349, 315, 155, 6, 35, 65; Google Patents, USPTO Web Page; Google Scholar; Search terms – attenuated, flavivirus, vaccine, Yellow Fever, chimera, Japanese Encephalitis, smallpox, influenza, recombinant HAV, glutamate, histidine, lactose, mannitol

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>US 2006/0051844 A1 (HEAVNER et al.) 09 March 2006 (09.03.2006) para [0179], [0186], [0187], [0196]</td>
<td>1-67</td>
</tr>
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<td>Y</td>
<td>US 2003/0219475 A1 (TRuong-LE) 27 November 2003 (27.11.2003) para [0011], [0012], [0015], [0017], [0022], [0033], [0068], [0137], [0143]-[0194]</td>
<td>28, 46, 54-61</td>
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<td>Y</td>
<td>US 2005/0096286 A1 (GUEVARA) 05 May 2005 (05.05.2005) para [0009], [0086]</td>
<td>48-50, 65</td>
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<td>Y</td>
<td>US 2005/0025782 A1 (MILICH et al.) 03 February 2005 (03.02.2005) para [0002], [0005], [006], [0055], [0077], Fig 32</td>
<td>51-52</td>
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Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
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  - **"E"** earlier application or patent but published on or after the international filing date
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  - **"Z"** document member of the same patent family

**Date of the actual completion of the international search**

03 March 2008 (03.03.2008)

**Date of mailing of the international search report**

01 APR 2008

**Name and mailing address of the ISA/US**

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
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Lee W. Young
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<tr>
<td>Y</td>
<td>US 2006/0121055 A1 (CAMPBELL et al.) 08 June 2006 (08.06.2006) para [0005], [0106], [0176], [0177]</td>
<td>66</td>
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