IMMUNOCAPTURE AND FUNCTIONAL ASSAY FOR MITOCHONDRIAL COMPLEX I

Abstract: Complex I defects are one of the most frequent causes of diseases and disorders associated with mitochondrial respiratory chain disorders, including genetically related diseases and late onset neurodegenerative diseases. The invention provides methods for using monoclonal antibodies that react with 39-, 30-, 20-, 18-, 15-, and 8-kDa subunits of Complex I to aid in diagnosis of Complex I deficiencies and that can be used for rapid screening to detect onset or stage of a variety of diseases. The invention further provides methods for screening agents, such as drugs, for their effect upon Complex I activity and for screening patients to detect those with impairment of Complex I activity and those suspected of having a late onset disease associated with post-translational modification of one or more subunits of Complex I.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : G01N 33/53, 33/543
US CL : 435/7.2, 7.92; 436/518

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)
U.S. : 435/7.2, 7.92; 436/518

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

Electronic database consulted during the international search (name of data base and, where practicable, search terms used)
Medline, Embase, Chemical abstracts, USPATFULL

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>A</td>
<td>WILLIAMS et al., (Immunological Phenotyping of Fibroblast Cultures from Patients with a Mitochondrial Respiratory Chain Deficit, Laboratory Investigation, Vol. 81, p. 1069, 2001), whole document.</td>
<td>1-58</td>
</tr>
<tr>
<td>A</td>
<td>US 5,888,498 A (DAVIS et al) 30 March 1999 (30.03.1999), columns 9 and 10.</td>
<td>1-58</td>
</tr>
</tbody>
</table>

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

Date of the actual completion of the international search
27 June 2003 (27.06.2003)

Date of mailing of the international search report
19 AUG 2003

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