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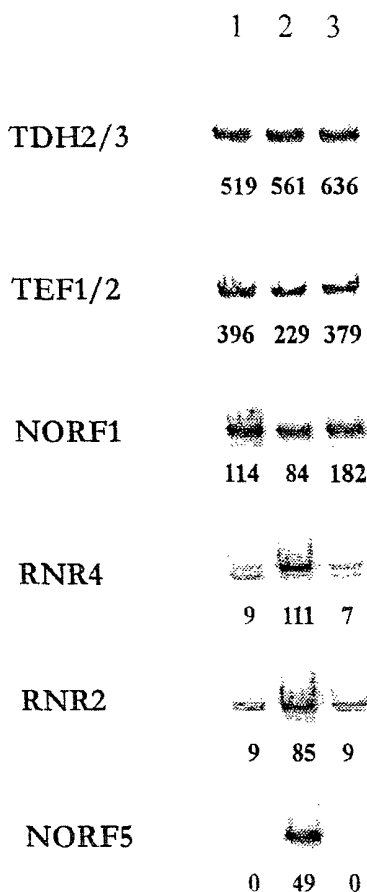
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US 09/335,032 (CON)  
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[Continued on next page]

(54) Title: CHARACTERIZATION OF THE YEAST TRANSCRIPTOME



(57) Abstract: Yeast genes which are differentially expressed during the cell cycle are described. They can be used to study, affect, and monitor the cell cycle of a eukaryotic cell. They can be used to obtain human homologs involved in cell cycle regulation. They can be used to identify antifungal agents and other classes of drugs. They can be formed into arrays on solid supports for interrogation of a cell's transcriptome under various conditions.

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IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,  
LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL,  
PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ,  
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**Published:**

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**(88) Date of publication of the international search report:**

3 May 2001

*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

PCT/US 00/16223

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/10 C12N15/31 C07K14/395 C12Q1/68 C12Q1/02  
C07K14/47

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)

IPC 7 C12N C07K C12Q

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 practical, search terms used)

EPO-Internal, WPI Data, PAJ, STRAND

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                            | Relevant to claim No. |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X,L        | WO 98 32847 A (UNIV JOHNS HOPKINS MED)<br>30 July 1998 (1998-07-30)<br>the document throws doubt on the claimed<br>priority<br>the whole document                                                                             | 1-42                  |
| X          | ---<br>V.E.VCELULESCU ET AL.: "Characterization<br>of the yeast transcriptome"<br>CELL,<br>vol. 88, 24 January 1997 (1997-01-24),<br>pages 243-251, XP002070903<br>CELL PRESS,CAMBRIDGE,MA,US;<br>the whole document<br>----- | 1-42                  |



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

24 October 2000

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17.11.01

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 00/16223

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Invention 1. : (1-42 partially)

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: {1-42 partially}

An isolated DNA molecule comprising yeast NORF1 gene comprising a SAGE tag as shown in SEQ ID NO: 67. A method of using said gene to affect the cell cycle. A method for screening candidate antifungal drugs by monitoring the expression of said gene in presence of the drug. A method of identifying human homologs using said gene. A probe containing at least 14 contiguous nucleotide of said gene. An array of of probes containing said probe. A method of identifying a candidate drug as a member of a class of drugs having a characteristic effect on gene expression in a yeast cell by monitoring the expression of said gene in the presence of the drug.

Invention 2-745: {1-41 partially,  
as far as applicable}

Same as invention 1 but limited to NORF2 to NORF745  
(invention 2 is limited to NORF2 as shown in SEQ ID NO: 68,  
invention 3 is limited to NORF3 as shown in SEQ ID NO: 69,  
.....invention 745 is limited to NORF745 as shown in SEQ ID  
NO: 811)

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/16223

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s)   | Publication<br>date      |
|-------------------------------------------|---------------------|------------------------------|--------------------------|
| W0 9832847 A                              | 30-07-1998          | AU 5928098 A<br>EP 0970202 A | 18-08-1998<br>12-01-2000 |
| -----                                     |                     |                              |                          |