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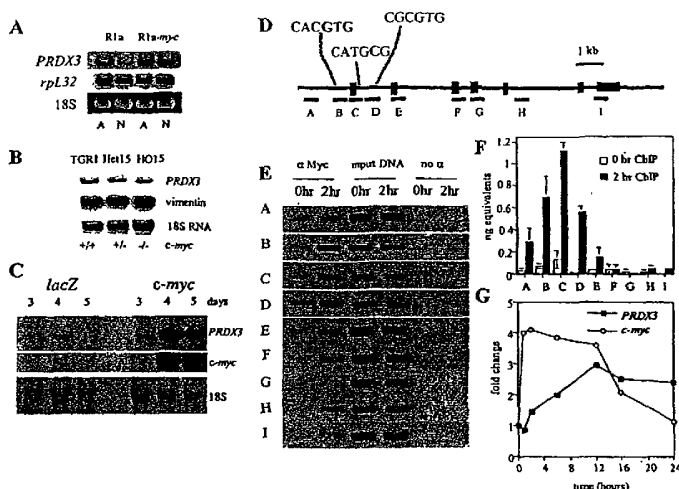
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(54) Title: INHIBITION OF TUMOR GROWTH VIA PEROXIREDOXIN 3



(57) Abstract: Deregulated expression of the c-Myc transcription factor is found in a wide variety of human tumors. Considerable effort has been devoted to elucidating the molecular program initiated by deregulated c-myc expression because of the significant role in oncogenesis. The primary transforming activity of Myc is thought to arise through transcriptional regulation of numerous target genes. A nuclear c-Myc target gene, PRDX3, which encodes a mitochondrial protein of the peroxiredoxin gene family is described. PRDX3 is required for Myc-mediated proliferation, transformation, and apoptosis after glucose withdrawal. Results using mitochondria-specific fluorescent probes demonstrate that PRDX3 is essential for maintaining mitochondrial mass and membrane potential in transformed rat and human cells. These data provide evidence that PRDX3 is a c-Myc target gene required to maintain normal mitochondrial function. Figure (1) shows PRDX3 regulated by c-myc expression.

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US03/10539

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/68, 1/02, 1/37, 1/00; C12N 15/09; A01K 39/00  
US CL : 435/6, 29, 23, 24, 4, 69.2; 424/277.1; 530/300

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. : 435/6, 29, 23, 24, 4, 69.2

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

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

WEST: tumor cell, nucleotides murine or human PRDX3 cDNA

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,432,671 B1 (FLOHE et al) 13 August 2002, see entire document.	1-34

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

<p>• Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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</p> <p>"&amp;" document member of the same patent family</p>
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