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(54) Title: REAGENTS AND METHODS FOR IDENTIFYING AND MODULATING EXPRESSION OF TUMOR SENESCENCE GENES

(57) Abstract: This invention identifies tumor senescence genes induced by treatment with cytotoxic agents. The invention provides reagents and methods for identifying compounds that induce expression of these cellular genes and produce cellular senescence, particularly senescence in tumor cells. The invention also provides reagents that are recombinant mammalian cells containing recombinant expression constructs that express a reporter gene under the transcriptional control of a promoter for a gene the expression of which is modulated in senescent cells, and methods for using such cells to identify compounds that modulate expression of these cellular genes.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US03/20425

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **C12Q 1/68**(2006.01);**G01N 33/53**(2006.01)

USPC: 435/7.1,6

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. : 435/7.1, 6

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)
MEDLINE, WEST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHANG et al. Molecular determinants of terminal growth arrest induced in tumor cells by a chemotherapeutic agent. PNAS, 8 January 2002, Vol. 99, No. 1, pages 389-394.	1-5, 7, 9-11, 13-17, 19, 21, 23, 24, 42-46, 48, 51-53, 55-59, 61, 63-66, 84, 85
X --- Y	US 6,025,194 A (FUNK) 15 February 2000 (15.02.2000), see entire document.	97-101, 103 --- 104-107
A	US 2003/0180707 A1 (ROBINSON et al.) 25 September 2003 (25.09.2003), see entire document.	1, 4, 7, 13, 15, 16, 20, 23, 26, 29, 34, 37
A	RONINSON. Tumor senescence as a determinant of drug response in vivo. Drug Resistance Updates, 2002, Vol. 5, pages 204-208.	86-89

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

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INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CHANG et al. A Senescence-like Phenotype Distinguishes Tumor Cells That Undergo Terminal Proliferation Arrest after Exposure to Anticancer Agents. Cancer Research, 1999, Vol. 59, pages 3761-3767.	86, 108
A	US 6,007,989 A (WEST et al.) 28 December 1999 (28.12.1999), see entire document.	95