

Title (en)
NMR APPARATUS AND METHOD FOR DETECTING CANCER

Publication
EP 0494969 A4 19920916 (EN)

Application
EP 90915646 A 19901004

Priority
US 41818289 A 19891006

Abstract (en)
[origin: WO9104706A1] A technique and an apparatus are disclosed for the detection of cancer using nuclear magnetic resonance (NMR). Specifically, NMR parameters for protons of lipid methyl and/or methylene groups are determined and compared against a corresponding value for healthy patients. In the preferred embodiments, an improved NMR spectrometer is employed to provide a spectrum for non-water components of blood, blood serum or blood plasma and the width of the methyl and/or methylene groups is automatically measured at half-height as a determination of spin-spin relaxation time (T2) which is the parameter used for purposes of comparison with healthy controls. In the event that a positive reading is obtained, the level of plasma triglycerides is determined and if it is high, the patient's bodily fluid sample is further subjected to C-13 nuclear magnetic spectroscopy.

IPC 1-7
A61B 5/055

IPC 8 full level
G01N 24/00 (2006.01); **G01R 33/32** (2006.01); **G01R 33/465** (2006.01)

CPC (source: EP)
G01R 33/465 (2013.01)

Citation (search report)

- [AP] EP 0361214 A1 19900404 - OTVOS JAMES D
- [A] JOURNAL OF LIQUID CHROMATOGRAPHY vol. 11, no. 3, 1 March 1988, NEW YORK, (US) pages 647 - 664; G.N. CHMURNY ET AL.: 'A COMPARISON OF HIGH PERFORMANCE GEL PERMEATION CHROMATOGRAPHY AND NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY IN THE ANALYSIS OF PLASMA FROM NORMAL SUBJECTS AND CANCER PATIENTS'
- [A] CLINICAL CHEMISTRY. vol. 34, no. 3, 1 March 1988, WASHINGTON, D.C., (US) pages 505 - 511; P. WILDING ET AL.: 'ASSESSMENT OF PROTON NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY FOR DETECTION OF MALIGNANCY'
- [A] FEBS LETTERS. vol. 219, no. 1, 13 July 1987, AMSTERDAM NL pages 239 - 243; J.D. BELL ET AL.: '1H NMR STUDIES OF HUMAN BLOOD PLASMA'
- [A] JOURNAL OF MAGNETIC RESONANCE vol. 59, no. 2, 1 September 1984, NEW YORK, (US) pages 268 - 274; S. COFFIN ET AL.: 'CORRELATION OF 13C AND 1H CHEMICAL SHIFTS IN BOVINE HIGH-DENSITY LIPOPROTEIN FROM TWO-DIMENSIONAL NMR'
- [A] MAGNETIC RESONANCE IN MEDICINE. vol. 7, no. 4, 1 August 1988, DULUTH,MN US pages 384 - 411; K.R. HALLIDAY ET AL.: 'DIFFERENTIATION OF HUMAN TUMORS FROM NONMALIGNANT TISSUE BY NATURAL-ABUNDANCE 13C NMR SPECTROSCOPY'
- [AP] MAGNETIC RESONANCE IN MEDICINE. vol. 16, no. 1, 1 October 1990, DULUTH,MN US pages 35 - 48; F.G. HERRING ET AL.: 'THE PROTON NMR OF BLOOD PLASMA AND THE TEST FOR CANCER'
- See references of WO 9104706A1

Designated contracting state (EPC)
AT BE CH DE DK ES FR GB IT LI LU NL SE

DOCDB simple family (publication)
WO 9104706 A1 19910418; AU 6605290 A 19910428; BR 9007724 A 19920818; CA 2067357 A1 19910407; EP 0494969 A1 19920722; EP 0494969 A4 19920916; FI 921432 A0 19920401; FI 921432 A 19920401; JP H05500918 A 19930225

DOCDB simple family (application)
US 9005687 W 19901004; AU 6605290 A 19901004; BR 9007724 A 19901004; CA 2067357 A 19901004; EP 90915646 A 19901004; FI 921432 A 19920401; JP 51455090 A 19901004