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- (71) Applicant: SPECIALTY ASSAYS, INC. [US/US]; 1117 Kennedy Boulevard, Manville, NJ 08835 (US).
- (72) Inventor: KAUFMAN, Richard, A.; 1117 Kennedy Boulevard, Manville, NJ 08835 (US).
- (74) Agents: MERCANTI, Michael, N. et al.; Roberts & Mercanti, L.L.P., EDC II, Suite 203, 105 Lock Street, Newark, NJ 07103 (US).
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(54) Title: ASSAYS FOR ANALYTES AND ENZYMES PRACTICED IN THE PRESENCE OF NAD AND NADP ANALOGUES, AND RELATED ASSAY KITS

(57) Abstract: Kits and methods for measuring enzyme activities and metabolites using NAD analogs and NADP analogs are disclosed. The analogs can be used as replacements for NAD and NADP cofactors in analytical procedures. Preferred aspects of the invention include kits containing the NAD analogs and NADP analogs for use in the measurement of ethanol, lactic acid, 3-hydroxybutyric acid, glucose, glycerol, triglycerides, alpha-glycerophosphate, bile acids and glucose-6-phosphate dehydrogenase activity in analytical samples.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/35299

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :C07H 19/207; C12Q 1/58, 1/54, 1/58, 1/26, 1/32; C12N 9/96.

US CL :536/26.24; 435/12, 14, 15, 25, 26, 188

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. : 536/26.24; 435/12, 14, 15, 25, 26, 188

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

Prior art supplied with US priority document

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

NONE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,801,006 A (KAUFMAN) 01 September 1998, see entire document.	1-34
X	Biochemicals Organic Compounds and Diagnostic Reagents (catalog). Sigma Chemical Company, St. Louis, MO, 1996 edition. See in particular page 35, col. 2; page 902, col. 2; p. 903 col. 1; and page 994 col. 1.	1 and 6-13
X	EP 0 639 646 A1 (ASHAI KASEI KOGYO) 20 February 1995, see entire document.	1-5, 18-19, 23 & 25-33
X	WO 89/02925 A1 (ABBOTT LABORATORIES) <i>06 April 1989</i> , see entire document.	1-5, 21-22 and 25-33

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

* Special categories of cited documents	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier document published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

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Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

LAWRENCE ERIC CRANE *Lawrence Eric Crane*  
Telephone No. (703) 308-1235

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/35299

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 632 133 A1 (ASAHI KASEI KOGYO) 04 January 1995, see entire document.	1-13, 15, 17-19, 23 & 25-35
X	WO 91/199974 A1 (FLOW, INC.) 26 December 1991, see entire document.	1-5, 11-12 and 25-34
X	US 5,037,738 A (LAMOS ET AL.) 06 August 1991, see entire document.	1-7, 9-13, 18-19 and 25-33
X	US 5,705,356 A (DE GIORGIO) 06 January 1998, See entire document.	1-6, 16 22 and 24-33