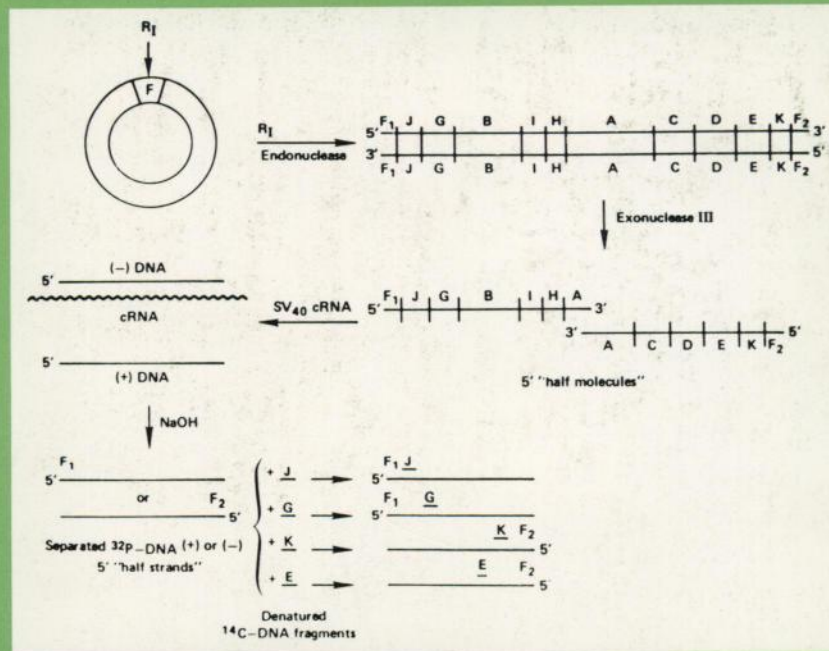
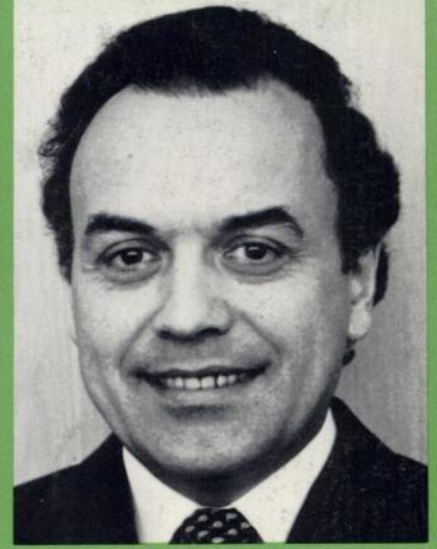
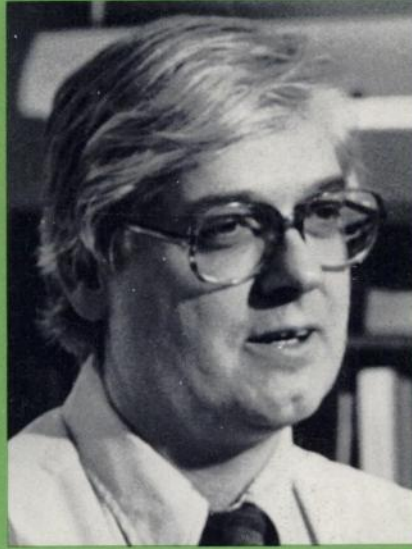


Cancer Research

VOLUME 43 • NO. 7 CNREA 8 • PP 3033-3463

July 1983



INTRODUCING
"PERSPECTIVES IN
CANCER RESEARCH"

TennaGen®

Assay for Tennessee Antigen

A SIGNIFICANT RESEARCH TOOL FOR DETECTION AND
MANAGEMENT OF GASTROINTESTINAL AND LUNG CANCER

AFTER TEN YEARS OF BASIC RESEARCH AND SUBSEQUENT
CLINICAL STUDIES, THE ASSAY HAS DEMONSTRATED:

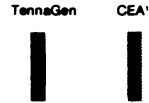
Sensitivity of JCL TennaGen

94.5% of Colorectal Carcinoma
(Dukes' A)
86.4% of Colorectal Carcinoma
(All Stages)
79.1% of Carcinoma of the Stomach
84.2% of Carcinoma of the Pancreas
93.2% of Carcinoma of the Liver
76.7% of Carcinoma of the Lungs
(All cancers were histologically
confirmed)

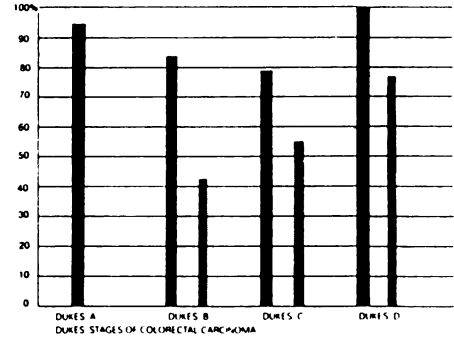
Results not affected by smoking

In a study of over 1,200 normal individuals, no significant difference in JCL TennaGen Assay levels was observed between smokers and nonsmokers. 92.4% displayed normal assay levels.

Early detection of
colorectal carcinoma
TennaGen Assay vs. CEA Assay



Hirai, H., et al. Protides of Biological Fluids, 24th Colloquium 1976, p. 821 (51).



TENNAGEN IS AVAILABLE FOR RESEARCH USE ONLY.



Ordering Information

Orders may be directed by mail, telex or telephone to:

JCL Clinical Research Corporation

PO BOX 6275

Knoxville, Tennessee 37914, U.S.A.

Telephone (615) 546-0654

TELEX: In care of 55-7404 TENHDBAGS DDRE

WILMOT CANCER RESEARCH FELLOWSHIPS

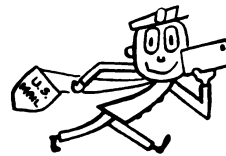
The University of Rochester School of Medicine offers research training to individuals with the M.D. degree and at least one year of postdoctoral experience. Research fellows can train for up to three years in any discipline relevant to the cause, diagnosis, treatment or prevention of cancer. Training is available in fields such as: endocrinology, experimental therapeutics, genetics, hematology, immunology, microbiology, molecular and cellular biology, pathology, and radiation oncology.

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For further information, contact:

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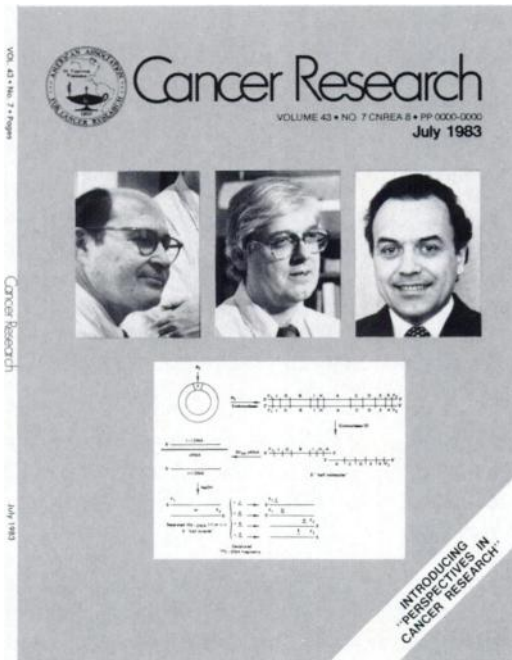
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COVER LEGEND



The Nobel Prize in Physiology of Medicine for 1978 was awarded to Werner Arber, 49, of the University of Basel, Switzerland, and to Hamilton O. Smith, 47, and Daniel Nathans, 50, of Johns Hopkins University. The awards recognized the development of restriction en-

donucleases, enzymes that are used to study DNA structure and thus to manipulate DNA. The events are described by Stuart Linn (*Science* 202: 1069–1071, 1978).

The contributions of Arber and his coworkers included the isolation of DNA restriction endonucleases that recognize and cleave specific nucleotide sequences. The work of Smith and his associates led to the purification and characterization of the first of the specific restriction endonucleases, which now number over 80. The first applications of restriction endonucleases to DNA characterization were reported in 1971 by Nathans and his graduate student, Kathleen Danna. They used the oncogenic simian virus SV40 in their research.

The genome of SV40 is a covalently closed, circular DNA duplex consisting of about 5000 nucleotide pairs. The orientation of the DNA strands was determined by means of endonucleases by Nathans and his group. They used a scheme pictured here in their report in *Fed. Proc.* 33: 1035–1038, 1974, and in Nathans' Nobel lecture in *Science* (Wash. D. C.), 206: 903–909, 1979.

We are indebted to Dr. Arber for his portrait (*right*) and to Jan Emrick of the Johns Hopkins Office of Public Affairs for the photographs of Drs. Nathans (*left*) and Smith (*center*).

M. B. S.