



Cancer Research

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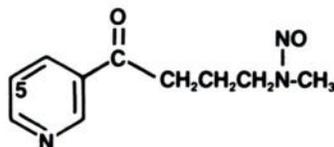
Nicotine Products for carcinogenesis research

4-(N-Methyl-N-nitrosamino)-1-(3-pyridyl)-1-butanone (NNK)
U1018

[methyl-³H]NNK T1017

[5-³H]NNK T1001

[carbonyl-¹⁴C]NNK C1027



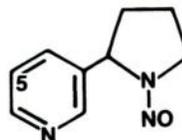
Carbethoxy-[5-³H]NNK T1020
(A model compound for the study of NNK metabolism)

Available from CSL, ³H/¹⁴C labeled and unlabeled 4-(N-methyl-N-nitrosamino)-1-(3-pyridyl)-1-butanone (NNK) as high purity chemicals (≥ 95%) for research. Analytical data include UV/VIS and IR spectral analysis, NMR, m.p. and copies of chromatograms.

Also available:

Nitrosornicotine (NNN)
U1040

[5-³H]NNN
T1005

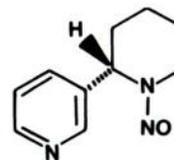


Out of 19 nitrosamines identified in smokeless tobacco, NNK and NNN are present in the highest concentrations. [The Cancer Letter, 12, #4, 4 (January 24, 1986).]

Additional tobacco specific nitrosamines:

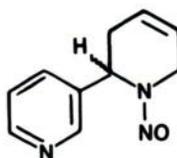
N'-Nitrosoanabasine (NAB)

U1178 (A newly identified carcinogenic nitrosamine)



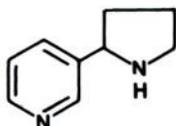
New product

N'-Nitrosoanatabine (dl pair) (NAT)
U1179



New product

d,l-Nornicotine
U1176



New product

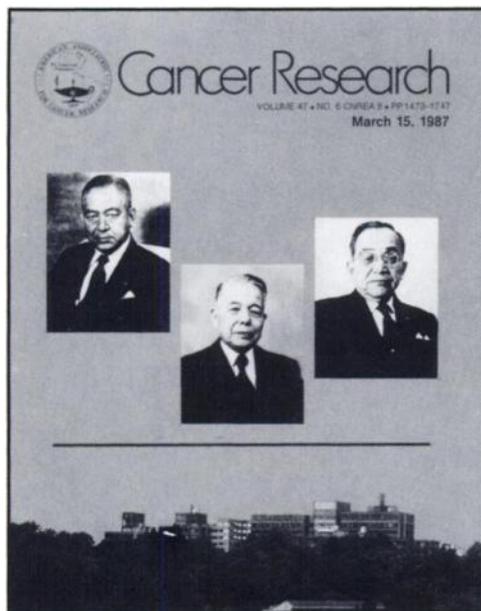
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13605 W. 96th Terrace
Lenexa, Kansas, 66215
913-541-0525
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COVER LEGEND



In 1960, Dr. Seizo Katsunuma, a hematologist and the president of Nagoya University, recommended that a new cancer center be built in the Aichi Prefecture of Japan. His proposal was welcomed by the Governor of the Prefecture, Mikine Kuwabara, who sought to promote science and culture at the local level. In 1963, Katsunuma, who was instrumental in the early development of the Center, died. The Center began its work the next year without an acting president.

Since the inauguration of the Center in 1964, the Hospital and the Research Institute have worked as equal partners. Dr. Hajime Imanaga, a surgeon, and Dr. Kaneyoshi Akazaki, a pathologist, supervised the Hospital and the Research Institute for the first 14 years.

The Center is now under the direction of Dr. Takeo Nagayo, its president. Dr. Kazuo Ota is the present Director of the Hospital and Dr. Yasuaki Nishizuka is Director of the Research Institute. The Center is currently entering a stage of expansion. The old hospital, with a 350-bed inpatient unit (the two buildings at the right in the photograph) will be replaced by a new building with a 500-bed unit to meet an ever-

increasing demand for the care of cancer patients. The Research Institute expects to add another science building to keep pace with progress in biotechnology.

The activities of the Research Institute are concentrated in various fields of cancer research involving different endeavors and methodologies. Research is roughly divided into three categories: basic science, especially cell and tissue biology and studies on the mechanism of transformation from normal cells to malignant ones; clinical science, aimed at the early detection and effective treatment of cancer; and cancer epidemiology, with special emphasis on the prevention of cancer in the general population.

Because over 95% of the patients receiving medical care at the Center are residents of the Aichi, Gifu, and Mie Prefectures, the Center provides important epidemiological data on those areas which comprise the Tokai District. One interesting epidemiological finding is the change in the nature of cancer incidence in the region as registered at the Hospital over the past 20 years. Cancers of the stomach and uterine cervix were dominant in the early years of the Hospital's existence. During the period 1964–1983, the incidences of these cancers have declined 9.3% and 6.4%, respectively, while the proportion of neoplasms traditionally more prevalent in western societies (cancers of the breast, lung, and colon) has increased 15.4%.

Statistics indicate that the risks for both the traditional and “western” cancers in a specified area are conditioned by the lifestyles of its inhabitants and that a change in lifestyle leads to a change in cancer incidence. Japanese emigrant populations in Hawaii and California show a far greater “westernization” of cancer distribution than inhabitants of mainland Japan. Akazaki has reported that the aged Japanese of mainland Japan are indistinguishable from those of Hawaii regarding the incidence of latent prostate cancer that is detectable only by a microscopic survey of the dissected specimens, whereas the incidence of clinically manifest prostate cancer is much lower in the former than in the latter (*J. Natl. Cancer Inst.*, 50: 1137–1144, 1973).

Pictured are (*left to right*) Drs. Katsunuma, Akazaki, and Imanaga, and a view of the Aichi Cancer Center. We are indebted to Dr. Mitsuo Kodama for the information and illustrations.