Studies on N-2-Chloroethylamido-oxazaphosphorines

- Cancerotoxic selectivity
- Cytotoxic specificity
Hemoccult®

The world's leading test for fecal occult blood.

Entire Colon —
Hemoccult® test or colonoscopy

8 cm. — Digital examination

25 cm. — Sigmoidoscopy

Routine digital examination explores only 8 cm. of the colon. Sigmoidoscopy reveals an additional 17 cm. But colorectal cancer can occur throughout the colon. And it's often asymptomatic.

That's why the Hemoccult® test is so valuable as a preliminary diagnostic screen. The Hemoccult® test is a reliable detector of blood throughout the colon.

In addition, it's accurate, inexpensive, simple to use and easy to read. The test can be done in your office in minutes, or given to your patient to take home and return by mail.

More than 114,000 cases of colorectal cancer will occur in the United States this year. The earlier they are diagnosed, the greater the chances for successful treatment. Send for your free Hemoccult® starter package, today.

Hemoccult® is available through local distributors, nationwide.
Norbert Brock (born 1912 in Dorsten) studied at the Pharmacological Institute of the University of Berlin under Wolfgang Heubner. His interest in cancer research developed during his collaboration with Herman Druckrey, before the Second World War. In 1949, Brock became Head of the Pharmacological Department of Asta-Werke in Bielefeld, Federal Republic of Germany. In the early 1950’s, a decision was made by Herbert Arnold (chemist), Brock (pharmacologist), Hilmar Wilmanns (clinician), and the company’s commercial director, Ewald Kipper, to make the development of effective cancer chemotherapy the chief goal of their work. The development of new cancer chemotherapy was guided by the concept of finding agents with higher selectivity and a wider margin of safety.

Following a suggestion by Druckrey, fosfestrol was developed in 1952 for the treatment of cancer of the prostate. The principle “transport form/active form” was used, whereby a highly reactive drug is not applied in the “active form” but in a chemically masked inactive transport form. The activation from transport form to active form should then take place in the body, preferably in the tumor cell.

This principle was then applied to alkylating substances, especially those of the nitrogen mustard type. From more than 1000 synthesized substances, 4 were eventually found suitable for clinical use: cyclophosphamide (1958), trofosfamide (1972), and ifosfamide (1977). Sufosfamide, a mixed-functional oxazaphosphorine, produced immune tolerance in animal experiments.

The phenomenon of a relative selectivity of the nitrogen mustard oxazaphosphorines—with cyclophosphamide as an example—was studied intensively all over the world. It was established that the in vivo selectivity of the oxazaphosphorines rests mainly on the higher cytotoxic specificity of the primary metabolites and is brought about by the special reactivity on the carbon atom 4-hydroxylated oxazaphosphorine ring (Z. Krebsforsch., 88: 185–215, 1977).

M. B. S.