The significance of the high 5-nucleotidase activity in neoplastic cervical cells of the mouse is unexplained.

A high activity of 5-nucleotidase was found in bronchial epithelial cells of mice infected with influenza. In the same cells the influenza virus could be demonstrated by means of a fluorescent antibody technique[2].

The presence of virus-like particles in some of the chemically induced tumours of the mouse cervix has been reported[3].

Therefore it is tempting to relate the increased enzyme activity to the presence of virus-like particles. Another possibility is that the 5-nucleotidase is connected with the syntheses which characterize the process of cornification as squamous cells undergoing keratinization show marked enzyme activity.

M. Thiery
Department of Gynæcology,
State University of Ghent.
R. G. J. Willighagen
Department of Pathology,
State University of Leyden.

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Reaction of the Reticular Tissue of Mice with Autoimmune Hæmolytic Anæmia to 2-Aminofluorene

A strain of mice suffering from hæmolytic anæmia of the autoimmune type has been established by one of us (M. B.). This strain designated *NZB/Bl* is now in the 52nd generation of brother–sister mating. Serological signs of the disease, such as agglutinating antibodies[1] and positive Coombs's tests[2], appear in a few animals from the 4th month of life onward, the incidence rising to virtually 100 per cent in animals older than 9 months.

It seemed of interest to test the neoplastic potentialities of the cells of the reticular tissue of *NZB* mice. 2-aminofluorene was chosen as carcinogen because this agent, in contrast to X-rays, carcinogenic hydrocarbons and œstrogens, has no special affinity for cells of the lymphatic system[3]. Apart from *NZB* animals mice of 2 other inbred strains (*NZC* and *NZO*) were used. All 3 strains originated from the same mixed colony and all were known to have a low incidence of spontaneous tumours of the lymphatic system. The mice were painted 3 times weekly with a 4 per cent solution of 2-aminofluorene in acetone for periods of 6–7 months.

As shown in Table 1 only in the *NZB* mice treatment with 2-aminofluorene induced a significant increase in neoplastic lesions of the reticular tissue. In 11 of the 14 affected animals the thymus was involved, but in 3 the process was limited to abdominal organs. One leukæmia, 1 reticulum cell sarcoma and 1 thymoma were transplanted. The grafts grew progressively, causing death of the recipients.

Table 1. Incidence of Lymphomas* in Mice treated with 2-Aminofluorine and in Controls

Strain	*NZB*	*NZC*	*NZO*
Total no. of controls	137; 76♂,61♀	160; 44♂, 116♀	274; 130♂, 144♀
Controls with lymphomas	5; 4♂, 1♀	3; —, 3♀	3; 2♂, 1♀
Total no. of treated mice	72; 35♂, 37♀	73; 45♂, 28♀	76; 36♂, 40♀
Treated mice with lymphomas	14; 7♂, 7♀	1; —, 1♀	2; —, 2♀

* Thymomas, lymphatic leukæmias and reticulum cell sarcomas.

Recent investigations[4] have established that the hæmolytic anæmia of *NZB* mice is an inheritable condition. In offspring of reciprocal crosses of *NZB* with *NZC* or *NZO* mice the occurrence of hæmolytic anæmia indistinguishable from that seen in *NZB* mice has been observed.

The lymphatic elements of *NZB* mice differ from those of the 2 other strains not only by their ability to form auto-antibodies against red blood corpuscles but also by increased susceptibility to 2-aminofluorene, that is, by a higher liability to undergo neoplastic transformation. Whether this is due to a primary instability of these elements or to hyperplastic processes occurring in many lymphatic organs concomitant with the development of the hæmolytic anæmia remains to be investigated.

Marianne Bielschowsky
F. Bielschowsky
Hugh Adam Cancer Research Department
of the Medical School
and the New Zealand Branch
of the British Empire Cancer Campaign,
University of Otago, Dunedin.

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HISTOCHEMISTRY

Histochemical Localization of β-Glucuronidase in Healing Wounds of the Axolotl

β-Glucuronidase, the enzyme related to cell proliferation and the formation of connective-tissue ground-substance, has been demonstrated in the basal layers of the oral mucous membrane and the epidermis, the blood vessels of the normal corium, in healing wounds of the skin of the back, the tongue and the palate of the rat[1–3], and in healing wounds of the dorsal skin and the tongue of the common iguana[4].

In continuation of this investigation I have examined the activity of this enzyme in healing wounds of the dorsal skin and the tongue of the axolotl *Amblystoma mexicanum*, the animals being killed after 5, 8, 16, 23 and 36 days. After excising the wound with an extensive zone of normal neighbouring tissue and fixation in formalin/chloral hydrate, the enzymatic activity was determined by the method of Fishman and Baker[5] on frozen sections with different incubation times. In the superficial necrotic band of the connective tissue in the 5-day specimens a negative reaction was observed, whereas immediately beneath this negative zone there was an intensely positive zone due to the presence of inflammatory exudate, and particularly leucocytes.

As healing progressed, the fibroblastic proliferation zone reacted moderately but consistently. The histiocytes and giant cells appeared to react more intensely. In the 23-day specimens the epidermis, which had proliferated over the margins of the wound, exhibited a significant increase in enzymatic activity.

In the light of these results I conclude that epithelial proliferation is closely related to β-glucuronidase activity. In connective tissue this enzyme is associated with tissue formation and macrophage function. As these results correspond with those obtained in