

A NOTE ON THE NUCLEAR PHENOMENA RECORDED IN BIOLOGICAL MATERIAL

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(Received January 30, 1969)

A previous communication [1] reported the observation of neutrons, protons and deuterons emitted by quickly proliferating cells (e.g. carcinoma cells). Here, results on the dependence of the numbers of recorded traces on the time elapsed since the cessation of life processes in the cell are reported.

This involved counting the number of single traces recorded with their range $R > 50 \mu$ in the emulsion exposed for 6 weeks to a constant amount of the substances (0.2700 g) for increasingly long periods of times since the cessation of life processes. The studies were conducted on the neoplastic tissue without features of necrosis, which was taken from rats with transplantable epithelioma Guerin. Table I gives the real number of tracks recorded per 1 cm^2 of the exposed plates.

From Table I the following conclusion can be drawn:

TABLE I

Substratum	Number of days ¹	Number of tracks ²	Number of days ¹	Number of tracks ²	Number of days ¹	Number of tracks ²
Neoplastic tissue from rats	0.5	73.5 ± 1.3	4.5	46.7 ± 1.6	14.0	32.8 ± 1.0
	1.0	64.2 ± 1.6	7.0	40.1 ± 0.9	14.5	31.3 ± 1.0
	1.5	59.7 ± 1.2	7.5	40.5 ± 0.9	28.0	23.6 ± 0.7
	2.5	53.9 ± 1.3	8.5	38.4 ± 1.2	42.0	19.5 ± 0.9
	3.0	51.2 ± 1.7	10.5	37.2 ± 0.8	56.0	16.1 ± 0.7
	3.5	49.6 ± 1.6	12.5	33.2 ± 0.9	112.0	8.9 ± 0.8

¹ number of days after cessation of life processes,

² real number of tracks (number of traces minus background) obtained from 0.1 g/cm^2 product.

i) the number of tracks of charged particles decreases with the increase of time elapsed since the cessation of life processes,

ii) on plotting the preceding result in semi-logarithmic scale three well-defined intervals of linear time-dependence are found, ending after about 7, 28 and 112 days, respectively.

The subject is still under investigation.

REFERENCES

[1] B. Wszolek, E. Kukiel, J. Konarski, *Acta Phys. Polon.*, **32**, 323 (1967).

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