Br. J. Cancer (1980) **42**, 929

Short Communication

HYDROLYSIS OF URIDINE DIPHOSPHATE-N-ACETYL-D-GLUCOSAMINE BY NORMAL AND MALIGNANT CELLS OF THE RAT

Y. M. CHOW† AND H. R. GUTMANN*

*From the *Laboratory for Cancer Research, Veterans Administration Medical Center, Minneapolis, MN 55417, and the †Department of Biochemistry, University of Minnesota.*

Received 27 May 1980 Accepted 8 September 1980

THE OBJECTIVE of this study was to determine whether the 2-step hydrolysis of uridine diphosphate-N-acetyl-D-glucosamine (UDPG1cNAc) may serve as marker of the malignant transformation of the rat cell. UDPG1cNAc is cleaved by nucleotide pyrophosphatase to UMP and coma virus (RSHT) were obtained from Flow Laboratories. Rat tumour cells were cultured from fibrosarcomas induced by N-hydroxy-2-fluorenylbenzamide (RT-4 and RT-5) or from sarcomas induced by s.c. inoculation of cells that had been transformed by N-OH-2-FAA (D'/I/3T

TABLE I.—*Hydrolysis of UDP[6-^{3}H]GlcNAc by control rat embryo cells and by rat embryo cells exposed once or twice to N-OH-2-FAA*

Cell line†	Passage no. of cells	% of UDP[6-^{3}H]GlcNAc remaining*	% of UDP[6-^{3}H]GlcNAc converted to [6-^{3}H] hexose-NAc-1-P	% of UDP[6-^{3}H]GlcNAc converted to [6-^{3}H] hexose-NAc
	12	2 ± 1	78 ± 5	20 ± 5
	16	4 ± 1	75 ± 5	21 ± 4
	20	2 ± 1	79 ± 5	19 ± 4
	24	3 ± 1	72 ± 7	24 ± 7
	28	2 ± 1	76 ± 2	22 ± 2
		(3 ± 1)	(75 ± 3)	(22 ± 3)
Exposed lines I and II	8	3	55	42
	12	2 + 1	70 + 10	28 + 11
	20	14 ± 2	68 ± 9	18 ± 6
	24	6	59	35
	28	15 ± 10	71 ± 11	14 ± 1
		(8 ± 6)‡	(65 ± 7)‡	(27 ± 10)
Control lines III and IV	16	3 ± 1	79 ± 1	18 ± 2
	20	3 ± 1	72 + 6	25 + 5
	24	3 ± 1	74 ± 2	23 ± 1
	28	3 + 1	77 + 1	20 + 2
		(3 ± 1)	(76 ± 3)	(22 ± 3)
Exposed lines III and IV	16	8	70	22
	20	17	60	23
	24	38 ± 11	47 ± 6	15 ± 5
	28	17 ± 4	69 ± 9	14 ± 6
		(20 ± 13)‡	(61 ± 11)‡	(19 ± 5)

* The values in columns 3, 4 and 5 are the means + average deviations of two cell lines, except that values

hydrolysis of UDPGlcNAc by rat embryo

GlcNAc by normal and tumour cells of rat

cells exposed to N-OH-2-FAA raised the question as to whether the change in

and hamster

et al., 1978).

The lack of correlation between malignant transformation of the rat embryo cell and the decrease of the cleavage of peculiar to the transformed cells of the hamster. However, impairment of this reaction is not indicative of malignant transformation of the rat cell, irrespective