

Table 2. Ultrastructural and cytochemical characteristic of nuclei in root cap cells and in differentiating cells of cortex

Component and radioactivity	Root cap	Cortex (distance from the tip in mm)			
		0-0.5	3-4	5-6	7-8
Nuclear size					
length (μm)	6.0 ± 0.03	7.8 ± 0.04	8.1 ± 0.2	12.5 ± 0.3	17.0 ± 0.2
diameter (axes) (μm)	7.8 ± 0.1 4.4 ± 0.1	7.2 ± 0.06	8.9 ± 0.1	9.4 ± 0.1	12.6 ± 0.4 6.0 ± 0.2
approx. volume (μm^3)	~ 338	~ 212	~ 295	~ 573	~ 673
Condensed chromatin					
relative area (%)	10.2 ± 0.5	3.9 ± 0.2	5.8 ± 0.3	7.2 ± 0.3	7.7 ± 0.3
approx. volume (μm^3)	~ 34.0	~ 7.3	~ 14.8	~ 38.9	~ 50.1
Number of nuclear pores per $1 \mu\text{m}$	1.3 ± 0.14	1.7 ± 0.7^a	1.6 ± 0.17	0.6 ± 0.08	0.4 ± 0.08
Incorporation of ^3H thymidine					
% of labelled nuclei	37.6	40.3	47.6	20.1	11.4
per $10 \mu\text{m}^2$ of nuclear surface ^b	6.3 ± 0.3	6.5 ± 0.2	5.0 ± 0.6	5.7 ± 0.8	5.0 ± 0.4
per 1 nuclear profile	29.0 ± 0.7	14.7 ± 0.7	23.5 ± 0.4	34.7 ± 0.6	39.8 ± 0.9
Incorporation of ^3H uridine					
per $10 \mu\text{m}^2$ of nuclear surface ^b	1.1 ± 0.06	1.8 ± 0.09	0.8 ± 0.02	0.6 ± 0.04	0.2 ± 0.003
per 1 nuclear profile	6.8 ± 0.23	4.4 ± 0.26	5.2 ± 0.36	4.5 ± 0.28	1.2 ± 0.14
Binding of ^3H AMD					
per $10 \mu\text{m}^2$ of nuclear surface	1.2 ± 0.04	1.7 ± 0.07	1.1 ± 0.07	0.9 ± 0.04	0.7 ± 0.04
per 1 nucleus	13.1 ± 0.4	6.4 ± 0.2	12.0 ± 0.4	21.4 ± 0.9	17.6 ± 0.45
Incorporation of ^3H leucine					
per 1 nuclear profile	9.2 ± 0.43	8.6 ± 0.36	6.9 ± 0.3	6.6 ± 0.27	7.1 ± 0.21

^a According to Olszewska 1974;

^b Without nucleolus