

Table 22.3. Measurements of kinetic parameters in preneoplastic, preinvasive, and malignant lesions in the human gastrointestinal tract

Reference	I_S (%)	I_M (%)	k_B (cells/1000 cells/h)	I_P	T_C (h)	t_S (h)	t_{G1} (h)	t_{G2} (h)	t_M (h)	t_{PD} (h)	t_D (d)	ϕ
Normal mucosa												
(i) Stomach												
Winawer and Lipkin (1969)	14	1.4			30	14.1		1.6				
Wright <i>et al.</i> (1977)			12.7 ²								79-122	
(ii) Colon/rectum												
Bleiberg <i>et al.</i> (rectum)												
(1970)	9				90 ¹	7.8						
(1972)	17				73 ¹	11.2						
(1977)	35					10.1						
Lipkin <i>et al.</i> (1963)												
Colon	17				72-96 ¹	9						
Rectum	15				72-96 ¹	11-15						
Shorter <i>et al.</i> (1964)	18.8					14						
Camplejohn <i>et al.</i> (1973)											82	
Preneoplastic												
(i) Atrophic gastritis												
Fujita and Hattori (1977)	26-28				30 ¹							
(ii) Intestinal metaplasia												
Winawer and Lipkin (1969)	19	1.0			34	14-18		1.6				
Wright <i>et al.</i> (1977)			21-23								30-46	
(iii) Ulcerative colitis												
Bleiberg <i>et al.</i> (1970)	26				34 ¹	9						
Preinvasive lesions												
(i) Tubular adenoma												
Bleiberg <i>et al.</i> (1972)	23				32	7						
Deschner and Lipkin (1976)	2				40	15						
(ii) Villous adenoma												
Lipkin <i>et al.</i> (1970)						15		15				
Deschner and Lipkin (1978)												
in vitro	23				32 ¹	7-12						
in vivo	2				40	15						
Carcinoma												
(i) Stomach												
Wright <i>et al.</i> (1977)			8 (4.9-24)								29-204	
(ii) Colorectal												
Bleiberg <i>et al.</i> (1976)												
Rectal	32.5				62 ¹	19.4						
Colon	42					14.6						
Welin <i>et al.</i> (1963)												
Terz <i>et al.</i> (1971)	23	2.2		0.42 0.49	26 ²	14	5.7 ²	5	1.3		630	0.36-0.49
Lipkin (1974)						12						
Camplejohn <i>et al.</i> (1973)			3.7 ³	0.13-0.25							192 ³	0.99
Stragand <i>et al.</i> (1980)												
Xenografts												
early (0.4-0.6 cm ³)	9.5	1.0	4.75	0.35	68	18	39	10	0.6	6.1	6.8	0.10
late (1.3-1.6 cm ³)	13	2.8	5.63	0.24	38	14	8.9	1.0	5.1d	13.7	0.63	

¹ Stage-duration calculation. ² Suspect. ³ Metaphase arrest.