

Table 20.2. Kinetic parameters in the small intestine of control and lactating rats and mice. (Data from Cairnie and Bentley 1967; Harding and Cairnie 1975)

	Rats			Mouse	
	Virgin	Non-lactating (newly parous, litters removed)	Lactating (15 days)	Virgin	Lactating
Villus column (cells)	83	93	115	—	—
Crypt column (cells)	28.1	27.7	37.1	—	—
Crypt population (cells)	670 ¹	700 ¹	1220 ¹	254 ²	585 ²
Labelling index	0.31	0.33	0.38	0.32	0.29
Mitotic index	0.03	0.04	0.06	—	—
S phase cellularity (cells)	—	—	—	82	168
Proliferative cellularity (cells)	423	441	732	162	235
Growth fraction	0.63 ³	0.63 ³	0.66 ³	144	264
Migration rate (cell positions/h)	1.0 ⁵	1.34 ⁵	1.56 ⁵	0.55 ⁴	0.46 ⁴
Crypt cell production rate (cells/crypt/h)	24.5 ⁶	33.3 ⁶	53.0 ⁶	—	—
Villus transit time (h)	48	48	40	14 ⁷	23.8 ⁷
T_C (h)	—	—	—	12.4 ⁸	25.8 ⁸
t_S (h)	—	—	—	11.6	10.2
t_{G1} (h)	—	—	—	6.6	6.5
t_{G2} (h)	—	—	—	4.3	3.0
	—	—	—	0.5	0.3

¹ From the product of the crypt column length and the column count. ² From microdissection studies. ³ From the labelling index distribution curve. ⁴ From the FLM curve and the labelling index. ⁵ From the cumulative birth rate curve. ⁶ Product of the migration rate and the column count. ⁷ k_B from double labelling. ⁸ k_B from the flash-labelling index.