	AIC		Mean residence time		log(2)/r* estimates		Inter-division time	
Model	T1	T2	T1	T2	T1	T2	T1	T2
Time-dependent	7.8	9.1	18(7, 44)	17 (6, 54)	250(46, 1300)	520(110, 2800)	69(2, 2800)	56 (3.5, 900)
Age-structured	35	21	20(16, 26)	33(21, 39)	NA	NA	89(36, 210)	2000 (1300, 3300)
			$1/\lambda_1^\dagger$		1,	$/\lambda_2^\dagger$		
constant birth-death	34	21	40(35, 47)	34(30, 41)	_	-	-	_
Incumbent	34	21	39(34, 47)	34(29, 40)	_	_	_	-
Kinetic heterogeneity	34	21	41(37, 46)	17 (6, 54)	33(10,102)	26(14, 47)	_	

Table 1: Comparison of AIC values for different models fitted to cell counts and donor fractions in FM B cells (Spleen + LN).

Note: Age-structured model gives visually bad fits for FM cells.

When fitting FM cells with the incumbent model, size of the incumbent population is estimated to be  $\approx$  0, making it equivalent to constant birth-death model. When fitting MZ model the counts of incumbent cells are estimated  $\approx 10^5$ .

	A	AIC Mean residence time		ence time	log(2)/r*	Inter-division time		
Model	T1	T2	T1	T2	T1	T2	T1	T2
Time-dependent	32	66	19(7, 55)	32(11, 90)	800(240, 2600)	810(200,3200)	28(7, 120)	64(9,460)
Age-structured	41	63	9(5, 16)	11(5, 23)	1100(590, 2100)	630(270, 1400)	11(5, 22)	15(6, 38)
			$1/\lambda_1^\dagger$		$1/\lambda_2^\dagger$			
constant birth-death	44	68	111 (142, 100)	90 (66, 125)	_	_	-	-
Incumbent	43	67	103(73, 171)	67(45, 125)	_	_	_	-
Kinetic heterogeneity	40	66	270(106, 710)	170(34, 840)	73(52, 102)	63(18, 210)	_	_

Table 2: Comparison of AIC values for different models fitted to cell counts and donor fractions in MZ B cells (Spleen).

 $<sup>^\</sup>dagger$  For the incumbent and constant birth-death model we only have  $\lambda$  estimates.

<sup>\*</sup> r is the rate of change of residence-time with host-age or cell age, hence  $\log(2)/r$  denotes the avearge time taken for men residence time to double. Changing  $\rho$  with time or cell age gives (visually) poor fits hence not included in this analysis.

NA - estimates for 'r' are close to zero therefore  $\log(2)/r \sim \text{NA/Inf}$ . This shows that in this case there is very little or no effect of cell age on  $\delta(a)$ .

<sup>&</sup>lt;sup>†</sup> For the incumbent and the constant birth-death model we only have  $\lambda$  estimates. For the kinetic heterogenity model there are two subsets with different loss rates  $\lambda_1$  and  $\lambda_2$ .

<sup>\*</sup> r is the rate of change of residence-time with host-age or cell age, hence  $\log(2)/r$  denotes the avearge time taken for men residence time to double. Changing  $\rho$  with time or cell age gives (visually) poor fits hence not included in this analysis.