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The Role of Stretching in Slow Axonal Transport

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Supplemental Table S1

Data for Pfister et al. Comparison		
Parameter	Value	Source
Length of Tubulin Dimer	.008 μm	(†)
Dimers / μm of microtubule	13/.008 = 1625	derived
Tubulin in Soluble Form	$\approx$ 30%	(‡)
MT Density (0 days)	153 MT μm^{-2}	($*$)
Axonal Caliber (0 days)	.43 μm^{2}	($*$)
Approximate MT Density (0 days)	66 MT μm^{-1}	derived
Approximate Linear Tubulin Density (0 days)	153214 dimers μm^{-1}	derived
γ	4 mm day^{-1}	($*$)
τ	73.6 days	($**$)
Microtubule Density (14 days)	158 MT μm^{-2}	($*$)
Axonal Caliber (14 days)	.58 μm^{2}	($*$)
Approximate Microtubule Density (14 days)	92 MT μm^{-1}	derived
Approximate Linear Tubulin Density (14 days)	213571 dimers μm^{-1}	derived
α	4311 dimers μm^{-1} day^{-1}	derived
P_0 (2 days)	161836 dimers μm^{-1}	derived
L_0 (2 days)	3.5 mm	($*$)
A	84.1	derived
C	1.96	derived

Table 1: Parameters Used for Applying this Model to the Data of Pfister, et al.

(†) : Desai, A., and T. J. Mitchison. 1997. Microtubule polymerization dynamics. Annual review of cell and developmental biology 13:83–117.
(‡) : Morris, J. R., and R. J. Lasek. 1984. Monomer-polymer equilibria in the axon: direct measurement of tubulin and actin as polymer and monomer in axoplasm. The Journal of cell biology 98:2064-2076.
($*$) : Pfister, B. J., A. Iwata, D. F. Meaney, and D. H. Smith. 2004. Extreme stretch growth of integrated axons. J Neurosci 24:7978-7983.
($**$) : Miller, K. E., and D. C. Samuels. 1997. The axon as a metabolic compartment: protein degradation, transport, and maximum length of an axon. Journal of theoretical biology 186:373-379.