

Table 1 Single motor parameters of our model, and values for kinesin-1 and cytoplasmic dynein, taken from the cited references. A question mark indicates that this parameter is not available

| Parameter | Symbol | Kinesin-1 | | Cytoplasmic dynein | |
|-------------------------------|-----------------|-------------------|----------|--------------------|----------|
| stall force | F_s | 6 pN | [34, 36] | 7 pN ('strong') | [37] |
| | | | | 1.1 pN ('weak') | [26, 44] |
| detachment force | F_d | 3 pN | [34] | ? | |
| unbinding rate | ε_0 | 1/s | [34, 40] | 0.25/s | [17, 32] |
| binding rate | π_0 | 5/s | [3, 21] | 1.5/s | [6, 40] |
| forward velocity | v_F | 1 $\mu\text{m/s}$ | [6, 40] | 1 $\mu\text{m/s}$ | [17, 37] |
| superstall velocity amplitude | v_B | 6 nm/s | [6] | ? | |

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