

**Table S1 Summary of vesicle transport dynamics.**

	Wildtype	DHC $\Delta$	p150 $\Delta$	Nkin mut.	Class 1	Class 2	Class 3	Class 4	Class 5
Motility index	21.5	5.8	8.3	4.1	10.4	4.9	9.4	7.4	6.2
Overall movements									
Mean movements/ $\mu\text{m}$ hyphal length	2.9	1.2	1.8	0.8	1.5	1.2	2.4	1.7	1.1
<i>n</i>	557	185	286	162	199	110	247	200	170
Mean velocity ( $\mu\text{m}/\text{sec} \pm \text{S.D.}$ )	1.64 $\pm$ 0.59	1.46 $\pm$ 0.62*	1.34 $\pm$ 0.49*	1.35 $\pm$ 0.52*	1.51 $\pm$ 0.59*	1.24 $\pm$ 0.41*	1.33 $\pm$ 0.45*	1.33 $\pm$ 0.41*	1.31 $\pm$ 0.48*
Mean distance ( $\mu\text{m} \pm \text{S.D.}$ )	4.26 $\pm$ 0.54	3.03 $\pm$ 1.71*	3.19 $\pm$ 1.44*	3.49 $\pm$ 2.07*	4.48 $\pm$ 2.59	3.21 $\pm$ 1.64*	2.85 $\pm$ 1.15*	3.17 $\pm$ 1.33*	3.96 $\pm$ 2.33
Inward movements									
Percent of total movements	48.7 %	47.1 %	48.9 %	48.8 %	41.7 %	52.7 %	53.8 %	41.5 %	47.1 %
Mean velocity ( $\mu\text{m}/\text{sec} \pm \text{S.D.}$ )	1.60 $\pm$ 0.55	1.36 $\pm$ 0.53*	1.27 $\pm$ 0.51*	1.36 $\pm$ 0.53*	1.43 $\pm$ 0.54*	1.23 $\pm$ 0.45*	1.29 $\pm$ 0.48*	1.24 $\pm$ 0.40*	1.28 $\pm$ 0.53*
Mean distance ( $\mu\text{m} \pm \text{S.D.}$ )	4.16 $\pm$ 2.47	2.70 $\pm$ 1.27*	2.78 $\pm$ 1.12*	3.23 $\pm$ 1.88*	3.90 $\pm$ 2.62	2.86 $\pm$ 1.38*	2.69 $\pm$ 1.02*	2.66 $\pm$ 0.96*	3.77 $\pm$ 2.40
Outward movements									
Percent of total movements	51.3 %	52.9 %	51.1 %	51.2 %	58.3 %	47.3 %	46.2 %	58.5 %	52.9 %
Mean velocity ( $\mu\text{m}/\text{sec} \pm \text{S.D.}$ )	1.67 $\pm$ 0.61	1.55 $\pm$ 0.69	1.41 $\pm$ 0.47*	1.35 $\pm$ 0.51*	1.56 $\pm$ 0.62	1.24 $\pm$ 0.36*	1.38 $\pm$ 0.42*	1.40 $\pm$ 0.41*	1.35 $\pm$ 0.44*
Mean distance ( $\mu\text{m} \pm \text{S.D.}$ )	4.36 $\pm$ 2.60	3.32 $\pm$ 1.98*	3.59 $\pm$ 1.59*	3.75 $\pm$ 2.22*	4.89 $\pm$ 2.49	3.57 $\pm$ 1.83*	3.05 $\pm$ 1.27*	3.53 $\pm$ 1.45*	4.13 $\pm$ 2.26
Vesicle accumulation									
Hyphal tip vesicle accumulation	60.0 %	92.3 %	27.3 %	100 %	72.7 %	86.7 %	90.0 %	78.6 %	100 %
Hyphal body vesicle accumulation	13.3 %	7.7 %	90.9 %	0 %	9.1 %	6.7 %	20.0 %	21.4 %	0 %

\* = statistically significant difference from wild-type value as determined by students t-test ( $P < 0.05$ ).