

**Table S1. Effect of the  $\beta$ -tubulin C-terminal tail on microtubule assembly.**

Parameter (mean $\pm$ SEM)	Untreated			Paclitaxel 6 nM			Paclitaxel 20 nM		
	Full-length $\beta$ III-Tubulin (ZB3) (n=150 cells)	Truncated $\beta$ III-Tubulin (ZB3 $\Delta$ ) (n=133 cells)	$\beta$ III-tubulin Body + $\beta$ I-tubulin C-terminal Tail (ZB3/CB1) (n=106 cells)	Full-length $\beta$ III-Tubulin (ZB3) (n=125 cells)	Truncated $\beta$ III-Tubulin (ZB3 $\Delta$ ) (n=89 cells)	$\beta$ III-Tubulin Body + $\beta$ I-Tubulin C-terminal Tail (ZB3/CB1) (n=100 cells)	Full-length $\beta$ III-Tubulin (ZB3) (n=113 cells)	Truncated $\beta$ III-Tubulin (ZB3 $\Delta$ ) (n=99 cells)	$\beta$ III-Tubulin Body + $\beta$ I-Tubulin C-terminal Tail (ZB3/CB1) (n=96 cells)
Assembly Rate ( $\mu$ m/min)	26.162 $\pm$ 0.061	26.355 $\pm$ 0.059	<b>24.667 <math>\pm</math> 0.061</b>	19.516 $\pm$ 0.060*	<b>21.969 <math>\pm</math> 0.093*</b>	<b>23.622 <math>\pm</math> 0.085*</b>	23.311 $\pm$ 0.150*	<b>24.557 <math>\pm</math> 0.168*</b>	<b>25.727<math>\pm</math>0.210*</b>
Growth Length ( $\mu$ m)	1.594 $\pm$ 0.032	1.593 $\pm$ 0.023	<b>1.416 <math>\pm</math> 0.019</b>	1.328 $\pm$ 0.018*	<b>1.306 <math>\pm</math> 0.033*</b>	<b>1.210 <math>\pm</math> 0.016*</b>	1.177 $\pm$ 0.014*	1.130 $\pm$ 0.021*	<b>0.988<math>\pm</math>0.020*</b>
Growth Duration (s)	1.357 $\pm$ 0.036	1.284 $\pm$ 0.018	<b>1.153 <math>\pm</math> 0.018</b>	1.701 $\pm$ 0.035*	<b>1.572 <math>\pm</math> 0.041*</b>	<b>1.419 <math>\pm</math> 0.029*</b>	1.687 $\pm$ 0.045*	<b>1.518 <math>\pm</math> 0.056*</b>	<b>1.496<math>\pm</math>0.051*</b>
Number of microtubule growth events per cell	333.7 $\pm$ 11.64	320.5 $\pm$ 10.24	<b>292.9 <math>\pm</math> 10.01</b>	328.7 $\pm$ 9.15	<b>298 <math>\pm</math> 13.87</b>	<b>254.7 <math>\pm</math> 10.61*</b>	160.1 $\pm$ 12.3*	<b>151.5 <math>\pm</math> 16.05*</b>	<b>125.5<math>\pm</math>10.19*</b>

Mean  $\pm$  SEM

**Bold: p<0.05 compared with cells expressing the full-length  $\beta$ III-tubulin protein (ZB3)**

\* p<0.05 compared with untreated cells