

**Table S1 – Primers used in this research.**

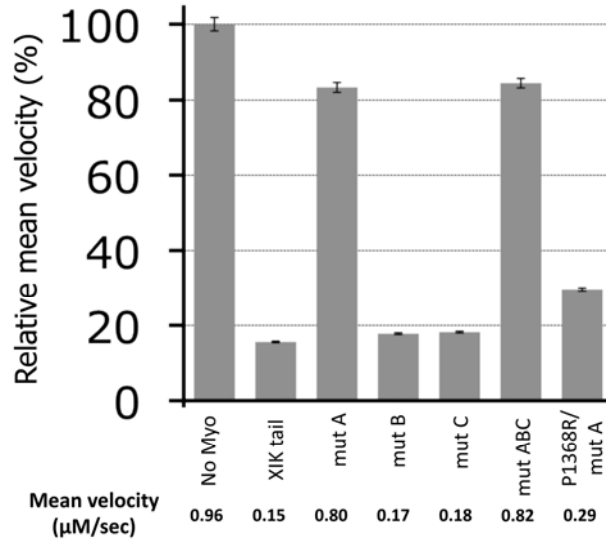
Primer name in lab records	Sequence	Primer number	Construct	Primers used
5KpnINbXIKCBD	GGGGTACCTCACCAACTGGAAAACTTTATC	1		
NbXIKENDXbaI	GCTCTAGATCAACTAGAGCGTTGATG	2		
5KpnINbXIKshort1	GGGGTACCCAGCAAGCTCTATTTGCTCATTGG	3		
5KpnINbXIKshort5	GGGGTACCAGTGCTGGACTTTCAGTTCTC	4		
3XbaIShort8	GCTCTAGATCAGGAGTCTTCTGTCATCATAAC	5		
5KpnINbXIKshort8	GGGGTACCAGAACATCTCGTGCAAGTTTAGTC	6		
3XbaINbXIKshort9	GCTCTAGATCATCTCGGTGCCTGAATACATAGC	7		
3XbaIShort8a	GCTCTAGATCAGGAGAATGGGATGCTCGAGTC	8		
5RtoP	CTCCTTTTGCGGCCGGAGTGTTGCTCGTTC	9		
3RtoP	GAACGAGCAAACTCCGGCCGCAAAAAGGAG	10		
5RtoA	CTCCTTTTGCGGGCGGAGTGTTGCTCGTTC	11		
3RtoA	GAACGAGCAAACTCCGCCCGCAAAAAGGAG	12		
5_R1443A	CAGCAACTCTATGCGATCAGCACTATGTAC	13		
3_R1443A	GTACATAGTGCTGATCGCATAGAGTTGCTG	14		
			Nb XI-K tail	1+2
			Short 1	3+2
			Short 2	4+2
			Short 3	4+5
			Short 4	6+2
			Short 5	1+7
			Short 6	6+5
			Short 7	6+8
			R1368P	1+9, 10+2, 1+2
			R1368A	1+11, 12+2, 1+2
			R1443A	1+13, 14+2, 1+2

Table S2: Statistical analysis of the Golgi Velocity ( $\mu\text{m}/\text{sec}$ )

Plant & organelle	Treatment	N <sup>1</sup>	Scheffe group	Mean	S.D.	Median	S.E.
<i>A.t.</i> Dominant negative	No Myo	763	A	0.779	0.422	0.715	0.015
	XI-A	328	A	0.702	0.390	0.638	0.022
	XI-D	401	A	0.768	0.483	0.707	0.024
	XI-J	515	A	0.812	0.451	0.758	0.020
	ATM1	222	A	0.700	0.370	0.663	0.025
	XI-B	150	B	0.503	0.367	0.459	0.030
	XI-F	564	B	0.660	0.391	0.611	0.016
	XI-G	433	B	0.521	0.327	0.473	0.016
	XI-H	353	B	0.629	0.590	0.434	0.031
	ATM2	430	B	0.634	0.332	0.597	0.016
	VIIIA	582	B	0.640	0.428	0.573	0.018
	VIIIB	643	B	0.631	0.356	0.587	0.014
	Mya1	557	C	0.128	0.072	0.116	0.003
	Mya2	262	C	0.131	0.061	0.112	0.004
	XI-C	202	C	0.131	0.066	0.115	0.005
	XI-E	564	C	0.136	0.058	0.124	0.002
XI-I	189	C	0.177	0.068	0.177	0.005	
XI-K	104	C	0.122	0.052	0.106	0.005	
<i>A.t.</i> Knockouts	wt	762	A	0.779	0.423	0.714	0.015
	$\Delta$ Mya1	445	B	0.692	0.455	0.633	0.022
	$\Delta$ Mya2	508	B	0.637	0.352	0.599	0.016
	$\Delta$ XI-C	853	B	0.707	0.410	0.646	0.014
	$\Delta$ XI-E	272	B	0.570	0.287	0.552	0.017
	$\Delta$ XI-I	167	B	0.519	0.375	0.420	0.029
	$\Delta$ XI-K	619	C	0.182	0.126	0.138	0.005
<i>N.b.</i> Dominant negative	No Myo	886	A	0.964	0.508	0.885	0.017
	Short 1	681	A	0.946	0.463	0.884	0.018
	Short 3	875	A	0.919	0.453	0.862	0.015
	Short 5	466	A	0.896	0.440	0.805	0.020
	Short 6	627	A	0.890	0.427	0.838	0.017
	R1368P	698	A	0.907	0.491	0.814	0.019
	R1368A	955	A	0.892	0.410	0.824	0.013
	R1443A	593	A	0.872	0.482	0.785	0.020
	Short 2	889	B	0.366	0.148	0.360	0.005
	Short 7	1060	B	0.332	0.143	0.316	0.004
	No Mutation	561	C	0.150	0.046	0.149	0.002
Short 4	459	C	0.205	0.071	0.201	0.003	

<sup>1</sup>Number of analyzed organelles. *A.t.* – *Arabidopsis thaliana*. *N.b.* - *Nicotiana benthamiana*.

**A.**



**B.**

A

Nb XI-K 1342 PFLVRKVF**T**QIFSFIN**V**QLFNSLLLRRECCSFSNGEFVKAGLAELE**Q**WCCYATEEYVGS**A**WDE 1404  
 Mutations .....L.....C.....T.P.N...I.....

B C

Nb XI-K 1405 LKH**I**RQAVGFLVIHQPKKTLHEITNELCPVLSIQQLYRISTMYWDDKYGHTVSSDVISSMR 1467  
 Mutations ...T.....K.K.....

Nb XI-K 1468 VMMTEDSNNAVSSSFLLDDSSIPFSVDDISKSIQQVDIADVEPPPLIRENSAFVFLHQ**R**SS\* 1529  
 Mutations .....\*