

**Table S3. Estimated protein amounts, rate constants and specific activities for the second set of *NbXIP1;1α* mutants.**

<i>NbXIP1;1α</i> mutants	Estimated protein amount (AU)	Background corrected rate constant (s <sup>-1</sup> )	Mean background corrected rate constant ± SD (s <sup>-1</sup> )	Specific activity (s <sup>-1</sup> protein AU <sup>-1</sup> )	Mean specific activity ± SD (s <sup>-1</sup> protein AU <sup>-1</sup> )
wt	1628	-0.012 0.265 -0.053	0.066 ± 0.173	-0.000007 0.000162 -0.000032	0.00004 ± 0.00011
L79G	940	1.965 3.413 3.367	2.915 ± 0.823	0.002090 0.003630 0.003581	0.00310 ± 0.00088
I102H	1509	3.342 3.028 2.838	3.07 ± 0.255	0.002214 0.002006 0.001880	0.00203 ± 0.00017
V242I	1208	0.175 0.925 0.389	0.496 ± 0.386	0.000144 0.000765 0.000321	0.00041 ± 0.00032
L79G/I102H	2323	1.582 3.616 2.174	2.457 ± 1.046	0.000680 0.001556 0.000935	0.00106 ± 0.00045
L79G/V242I	867	3.132 3.586 3.230	3.316 ± 0.239	0.003610 0.004133 0.003723	0.00382 ± 0.00028
I102H/V242I	3859	5.578 8.273 9.963	7.938 ± 2.212	0.001445 0.002143 0.002581	0.00206 ± 0.00057
L79G/I102H/ V242I	555	3.782 5.708 3.483	4.324 ± 1.208	0.006813 0.010282 0.006273	0.00779 ± 0.00218