

### SUPPLEMENTARY TABLE 3

**Multi-Gaussian fit parameters of step size and rupture force distributions from force-ramp data in Fig. S5**

Protein	Peak1	Peak2	Peak3
Step size	23±5.3 nm	36±9.7 nm	66±22 nm
Rupture force	9.3±2.1 pN	23±6.6 pN	-

\* Error bars are standard deviation of the population distribution.