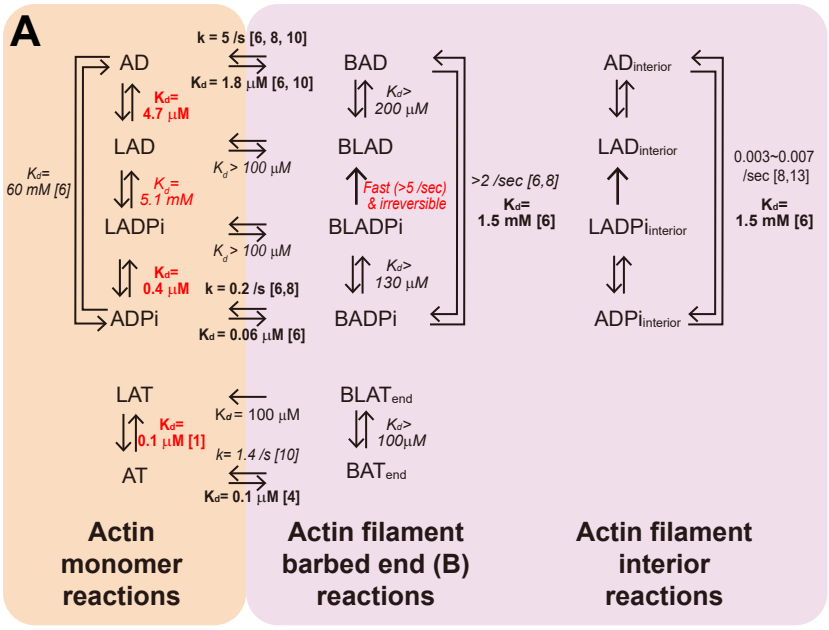
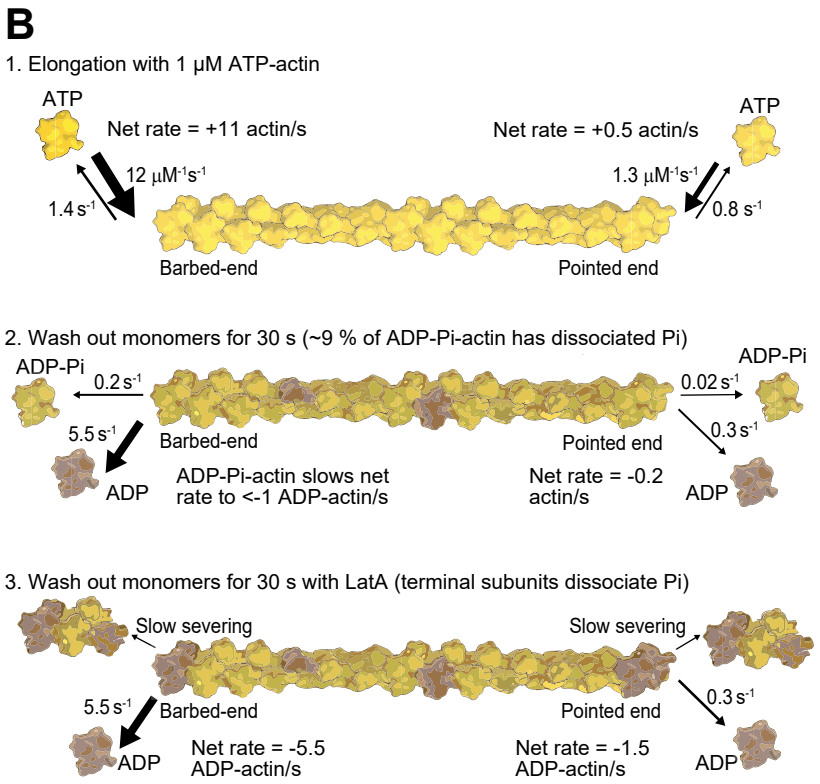

A
AD
LAD
LADPi
ADPi
LAT
AT
BAD
BLAD
BLADPi
BADPi
BLATend
BATend
ADinterior
LADinterior
LADPiinterior
ADPiinterior
k = 5 /s [6, 8, 10]
Kd = 1.8 μM [6, 10]
Kd= 4.7 μM
Kd> 200 μM
Kd= 60 mM [6]
Kd> 100 μM
Kd= 5.1 mM
Fast (>5 /sec) & irreversible
>2 /sec [6,8]
Kd= 1.5 mM [6]
0.003~0.007 /sec [8,13]
Kd= 1.5 mM [6]
Kd> 100 μM
Kd= 0.4 μM
k = 0.2 /s [6,8]
Kd> 130 μM
Kd = 0.06 μM [6]
Kd= 100 μM
Kd= 0.1 μM [1]
Kd> 100μM
k= 1.4 /s [10]
Kd= 0.1 μM [4]
Actin monomer reactions
Actin filament barbed end (B) reactions
Actin filament interior reactions


B
1. Elongation with 1 μM ATP-actin
ATP
Net rate = +11 actin/s
12 μM-1s-1
1.4 s-1
Barbed-end
Net rate = +0.5 actin/s
ATP
1.3 μM-1s-1
0.8 s-1
Pointed end
2. Wash out monomers for 30 s (~9 % of ADP-Pi-actin has dissociated Pi)
ADP-Pi
0.2 s-1
5.5 s-1
ADP
Barbed-end
ADP-Pi-actin slows net rate to <-1 ADP-actin/s
Pointed end
Net rate = -0.2 actin/s
0.02 s-1
ADP-Pi
0.3 s-1
ADP
3. Wash out monomers for 30 s with LatA (terminal subunits dissociate Pi)
Slow severing
5.5 s-1
ADP
Barbed-end
Net rate = -5.5 ADP-actin/s
Slow severing
Pointed end
Net rate = -1.5 ADP-actin/s
0.3 s-1
ADP