

Table 1. Global cytoplasmic concentrations, mean molecules per cell, and local accumulation in actin patches, spindle pole bodies, or the division site for 28 proteins measured by fluorescence microscopy and immunoblotting.

Protein (number of cells analyzed for global concentration; local concentration; number of patches)	Exposure time/slice (ms)	Global cytoplasmic concentration (μM)	Mean polypeptides per average cell with a volume of $92 \mu\text{m}^3$	Local accumulation %* [mean (maximum observed)]	Local concentration [mean polypeptides (mean concentration, μM)]
<i>Actin patch proteins</i>					
YFP-actin Act1p† (302; 2; 89)	69	0.78 ± 0.71	$17,600 \pm 16,000$	13 (16)	145 ± 89 (29)
Actin Act1p† (118×10^6)	Imm/blot	$63.2 \pm 10.5\ddagger$	$(1.43 \pm 0.24) \times 10^{6\ddagger}$	>13	$2,700 \pm 1,700$ (530)
Arp2 (Arp2p) (104; 6; 168)	69	2.88 ± 0.35	$46,600 \pm 5,700$	10 (11)	212 ± 94 (42)
Arp3 (Arp3p) (86; 6; 158)	69	4.12 ± 0.45	$66,700 \pm 7,300$	7 (8)	210 ± 87 (42)
ARPC1 (Arc1p/Sop2p) (85; 6; 199)	69	2.49 ± 0.29	$40,300 \pm 4,700$	15 (17)	208 ± 79 (41)
ARPC3 (Arc3p/Arc21p) (85; 6; 165)	69	2.39 ± 0.22	$38,700 \pm 3,600$	12 (14)	185 ± 73 (37)
ARPC5 (Arc5p/Arc16p) (94; 6; 165)	69	1.88 ± 0.14	$30,500 \pm 2,300$	12 (13)	193 ± 76 (38)
Capping protein Acp2p (42; 2; 69)	99	1.19 ± 0.16	$19,200 \pm 2,600$	17 (19)	90 ± 48 (18)
Fimbrin Fim1p (121; 4; 121)	69	5.34 ± 0.56	$86,500 \pm 9,100$	15 (21)	507 ± 290 (100)
<i>Spindle pole body proteins</i>					
SPB protein Sad1p† (58; 58)	198	0.15 ± 0.05	$3,300 \pm 1,100$	31 (52)	$450\text{--}1,030$ (900–1,120)
Polo kinase Plo1p† (65; 38)	399	0.29 ± 0.06	$6,600 \pm 1,400$	1 (6)	$30\text{--}220$ (33–440)
SIN kinase Cdc7p (103; 22)	399	0.24 ± 0.08	$4,000 \pm 1,300$	5 (13)	$0\text{--}440$ (0–480)
<i>Cytokinesis proteins</i>					
					Mature contractile ring
Anillin-like Mid1p† (94; 23)	300	0.09 ± 0.02	$2,100 \pm 500$	40 (68)	700 ± 200 (4)
Myosin-II Myo2p <i>kan</i> ^r § (53; 13)	300	0.45 ± 0.08	$7,300 \pm 1,400$	27 (50)	$2,900 \pm 400$ (20)
Myosin-II ELC Cdc4p (54; 15)	78	4.75 ± 0.67	$77,000 \pm 10,800$	22 (31)	$24,900$ (165)
Myosin-II RLC Rlc1p (45; 10)	399	0.60 ± 0.09	$9,600 \pm 1,500$	18 (28)	$3,200 \pm 600$ (28)
IQGAP Rng2p <i>kan</i> ^r § (112; 17)	300	0.17 ± 0.04	$2,700 \pm 600$	35 (62)	$1,300 \pm 100$ (10)
mYFP-Cdc15p <i>kan</i> ^r § (102; 16)	198	2.13 ± 0.33	$35,600 \pm 5,400$	21 (34)	$16,100 \pm 2,300$ (94)
Formin Cdc12pII (98; 9)	600	0.04 ± 0.01	600 ± 200	11 (26)	300 ± 50 (3)
Actin Act1p† (118×10^6)	Imm/blot	$63.2 \pm 10.5\ddagger$	$(1.43 \pm 0.24) \times 10^{6\ddagger}$	4	$\sim 76,000$ (460)
UCS protein Rng3pII (72; 12)	600	0.12 ± 0.03	$1,900 \pm 400$	3 (8)	60 ± 20 (0.5)
Rng3p in <i>myo2-E7II</i> (42; 13)	198	0.32 ± 0.11	$6,800 \pm 2,400$	30 (50)	$4,200 \pm 1,600$ (28)
Alpha-actinin Ain1p (101; 10)	300	0.22 ± 0.03	$3,600 \pm 500$	8 (12)	500 ± 100 (4)
Myosin-II Myp2p (89; 14)	399	0.38 ± 0.07	$6,100 \pm 1,100$	21 (28)	$2,000$ (15)
Septin Spn1p (159; 24)	198	0.63 ± 0.10	$10,300 \pm 1,600$	35 (50)	$7,000 \pm 800$ (21)
Septin Spn4p (131; 28)	198	0.50 ± 0.07	$8,100 \pm 1,200$	34 (50)	$6,100 \pm 1,200$ (18)
Anillin-like Mid2p (116)	198	0.11 ± 0.19	$1,800 \pm 3,100$	NA	NA
Protein kinase C Pck2p (102; 19)	399	0.27 ± 0.04	$4,300 \pm 600$	13 (24)	800 ± 100 (6)
Rho GEF Rgf1p (89; 9)	300	0.27 ± 0.05	$4,300 \pm 700$	5 (8)	200 ± 30 (1)
Rho GEF Rgf3p (44; 6)	999	0.20 ± 0.08	$3,200 \pm 1,300$	4 (13)	200 ± 40 (1)
Chitin synthase Chs2p (97; 9)	600	0.13 ± 0.07	$2,100 \pm 1,100$	3 (8)	100 ± 30 (0.5)

*Percent of total molecules localized to actin patches, SPB(s), or the cell-division site (excluding medial patches). †Actin, Sad1p, Plo1p, and Mid1p were not excluded from the nucleus (40–44). We assumed equal concentrations of these proteins in the cytoplasm and nucleus. ‡The average of the two methods using *S. pombe* actin as standard as shown in fig. S5. §Strain analyzed with (*kan*^r) or without (*kan*^s), the *kanMX6* selectable marker. ||Triple YFP tag gave three times the signal of single YFP and less variance in the measurements.