

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 ± 16,000	13 (16)	145 ± 89 (29)
Actin Act1p† (118×10^6)	Imm/blot	63.2 ± 10.5‡	(1.43 ± 0.24) × 10 ⁶ ‡	>13	2,700 ± 1,700 (530)
Arp2 (Arp2p) (104; 6; 168)	69	2.88 ± 0.35	46,600 ± 5,700	10 (11)	212 ± 94 (42)
Arp3 (Arp3p) (86; 6; 158)	69	4.12 ± 0.45	66,700 ± 7,300	7 (8)	210 ± 87 (42)
ARPC1 (Arc1p/Sop2p) (85; 6; 199)	69	2.49 ± 0.29	40,300 ± 4,700	15 (17)	208 ± 79 (41)
ARPC3 (Arc3p/Arc21p) (85; 6; 165)	69	2.39 ± 0.22	38,700 ± 3,600	12 (14)	185 ± 73 (37)
ARPC5 (Arc5p/Arc16p) (94; 6; 165)	69	1.88 ± 0.14	30,500 ± 2,300	12 (13)	193 ± 76 (38)
Capping protein Acp2p (42; 2; 69)	99	1.19 ± 0.16	19,200 ± 2,600	17 (19)	90 ± 48 (18)
Fimbrin Fim1p (121; 4; 121)	69	5.34 ± 0.56	86,500 ± 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 ± 1,100	31 (52)	450–1,030 (900–1,120)
Polo kinase Plo1p† (65; 38)	399	0.29 ± 0.06	6,600 ± 1,400	1 (6)	30–220 (33–440)
SIN kinase Cdc7p (103; 22)	399	0.24 ± 0.08	4,000 ± 1,300	5 (13)	0–440 (0–480)
<i>Cytokinesis proteins</i>					
					Mature contractile ring
Anillin-like Mid1p† (94; 23)	300	0.09 ± 0.02	2,100 ± 500	40 (68)	700 ± 200 (4)
Myosin-II Myo2p <i>kan</i> § (53; 13)	300	0.45 ± 0.08	7,300 ± 1,400	27 (50)	2,900 ± 400 (20)
Myosin-II ELC Cdc4p (54; 15)	78	4.75 ± 0.67	77,000 ± 10,800	22 (31)	24,900 (165)
Myosin-II RLC Rlc1p (45; 10)	399	0.60 ± 0.09	9,600 ± 1,500	18 (28)	3,200 ± 600 (28)
IQGAP Rng2p <i>kan</i> § (112; 17)	300	0.17 ± 0.04	2,700 ± 600	35 (62)	1,300 ± 100 (10)
mYFP-Cdc15p <i>kan</i> § (102; 16)	198	2.13 ± 0.33	35,600 ± 5,400	21 (34)	16,100 ± 2,300 (94)
Formin Cdc12p (98; 9)	600	0.04 ± 0.01	600 ± 200	11 (26)	300 ± 50 (3)
Actin Act1p† (118×10^6)	Imm/blot	63.2 ± 10.5‡	(1.43 ± 0.24) × 10 ⁶ ‡	4	~76,000 (460)
UCS protein Rng3p (72; 12)	600	0.12 ± 0.03	1,900 ± 400	3 (8)	60 ± 20 (0.5)
Rng3p in <i>myo2-E11</i> (42; 13)	198	0.32 ± 0.11	6,800 ± 2,400	30 (50)	4,200 ± 1,600 (28)
Alpha-actinin Ain1p (101; 10)	300	0.22 ± 0.03	3,600 ± 500	8 (12)	500 ± 100 (4)
Myosin-II Myp2p (89; 14)	399	0.38 ± 0.07	6,100 ± 1,100	21 (28)	2,000 (15)
Septin Spn1p (159; 24)	198	0.63 ± 0.10	10,300 ± 1,600	35 (50)	7,000 ± 800 (21)
Septin Spn4p (131; 28)	198	0.50 ± 0.07	8,100 ± 1,200	34 (50)	6,100 ± 1,200 (18)
Anillin-like Mid2p (116)	198	0.11 ± 0.19	1,800 ± 3,100	NA	NA
Protein kinase C Pck2p (102; 19)	399	0.27 ± 0.04	4,300 ± 600	13 (24)	800 ± 100 (6)
Rho GEF Rgf1p (89; 9)	300	0.27 ± 0.05	4,300 ± 700	5 (8)	200 ± 30 (1)
Rho GEF Rgf3p (44; 6)	999	0.20 ± 0.08	3,200 ± 1,300	4 (13)	200 ± 40 (1)
Chitin synthase Chs2p (97; 9)	600	0.13 ± 0.07	2,100 ± 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*) or without (*kan*), the *kanMX6* selectable marker. ||Triple YFP tag gave three times the signal of single YFP and less variance in the measurements.

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