TABLE I

Swimming Rates of Extracted Cells

	[MgATP]	Swimming rate*		Description of motility
		μm/s	% intact cells	
(a) Tetrahymena				
(6×10^5 cells/ml)	Intact cells	247	100	—
	>7 mM	0	0	Trembling somatic, stationary oral
	5 mM	67	27	—
	2 mM	78	32	—
	1 mM	84	34	—
	0.5 mM	76	31	—
	0.2 mM	53	21	—
	0.1 mM	39	16	—
	0.05 mM	17	8	—
	0.02 mM	0	0	—
	0.01 mM	0	0	Feeble beat; stops within 1 min
(b) Chlamydomonas				
vegetative (2×10^6 cells/ml)	Intact cells	133	100	—
	10 mM	65	49	Most immotile or circling
	5mM	64	48	Many immotile or circling
	1 mM	58	44	Nearly all motile
	0.5 mM	37	28	—
	0.3 mM	31	23	Many circling
	0.15 mM	0	0	All circling
(c) Chlamydomonas				
gametes (2×10^6 cells/ml)	Intact cells	174	100	—
	10 mM	99	57	Most immotile or circling
	1 mM	90	52	Nearly all motile
	0.5 mM	70	40	—
	0.1 mM	28	16	Most circling
	0.01 mM	0	0	All circling
(d) Chlamydomonas				
mutant sup_{pf}-*1* (gametes)	Intact cells	74	100	—
	10 mM	0	0	All circling
	2 mM	21	28	—
	0.5 mM	0	0	All circling

* At least 10 intact or extracted cells were scored, as described in Results, for each [MgATP]. The five fastest swimming rates were then selected and averaged to yield the rates shown, the assumption being that maximum rates are least prone to error due to diagonal paths and/or mechanical obstacles.