

Structural states of myosin motors characterized at high resolution.

Myosin	PDB code	Laboratory (ref)	50 kDa cleft	Lever-arm	β-sheet	sw I	sw II	P-loop	SH1-helix/Relay
<u>Post-rigor / Near-rigor / open state:</u>									
Ck Myosin II	2MYS	Rayment (1)	OPEN	DOWN	untwisted	near nucleotide	“Open”, free	Conventional MgATP, MgADP	few interactions
Dd Myosin II	1MMD, 1FMW	Rayment (2, 3)							
Sc Myosin II	1SR6, 1S5G	Cohen (4)							
Myosin V	1W7J	Houdusse (5)							
<u>Pre-powerstroke / transition-state / closed state:</u>									
Dd Myosin II	1VOM	Rayment (6)	Partially	UP	untwisted	near nucleotide	near γ-Pi “Closed”	Conventional MgADP.Pi	Strong interactions SH1 helix far from Sw II
Sm Myosin II	1BR1, 1BR2	Cohen (7)	CLOSED						
Sc Myosin II	1QVI	Cohen (8)							
Dd Myosin I myoE	1LKX	Kull (9)							
<u>Rigor-like state:</u>									
N.F. Myosin V	1OE9	Houdusse (10)	Fully	DOWN	Twisted	far from nucleotide	near N-term subdomain	Obstructed (not ATP, not ADP) none	Strong interactions SH1 helix close to Sw II
	1W8J	Houdusse (5)	CLOSED						
<u>ADP-weak:</u>									
M5 +soaked ADP	1W7I	Houdusse (5)	Fully	DOWN	Twisted	far from nucleotide	near N-term free	Intermediate (not ATP) ADP bound	Strong interactions SH1 helix close to Sw II
			CLOSED						
<u>Detached:</u>									
Sc Myosin II	1B7T, 1KWO, 1KK8	Cohen (11, 12)	OPEN	Uncoupled	untwisted	near nucleotide	“Open”, Free	Conventional MgATP, MgADP	SH1 helix unwound
<u>Nucleotide-free myosin:</u>									
Dd Myosin II	1Q5G	Manstein (13)	Partially	DOWN	Twisted	far from nucleotide	near Sw I	Conventional none	Strong interactions SH1 helix closer to Sw II
			CLOSED						

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