

Supporting Information



Movie S1.mov

Movie S1. This movie shows a schematic 3D model of the actions of the transmission machinery of myosin. The nucleotide-free structure exists at stages :00 and :06, and the nucleotide-ligated structure exists at :03. The shapes and colors of the converter, lever arm, relay helix, SH1 and SH2 helices, Switch II loop and relay loop are the same as those in Fig. 4C. Note that during the transition between the nucleotide-free and nucleotide-ligated states, the side chain of Phe-721 (red hexagon) is always associated with the β -sheet structure of the converter; therefore, the distal end of the SH1 helix can function as the center of rotation of the converter. It is also worth noting that one end of the relay helix is attached to the side chain of Phe-775 (pink hexagon); the nucleotide-induced motions of the relay helix can be transmitted effectively to the converter via this attachment.