

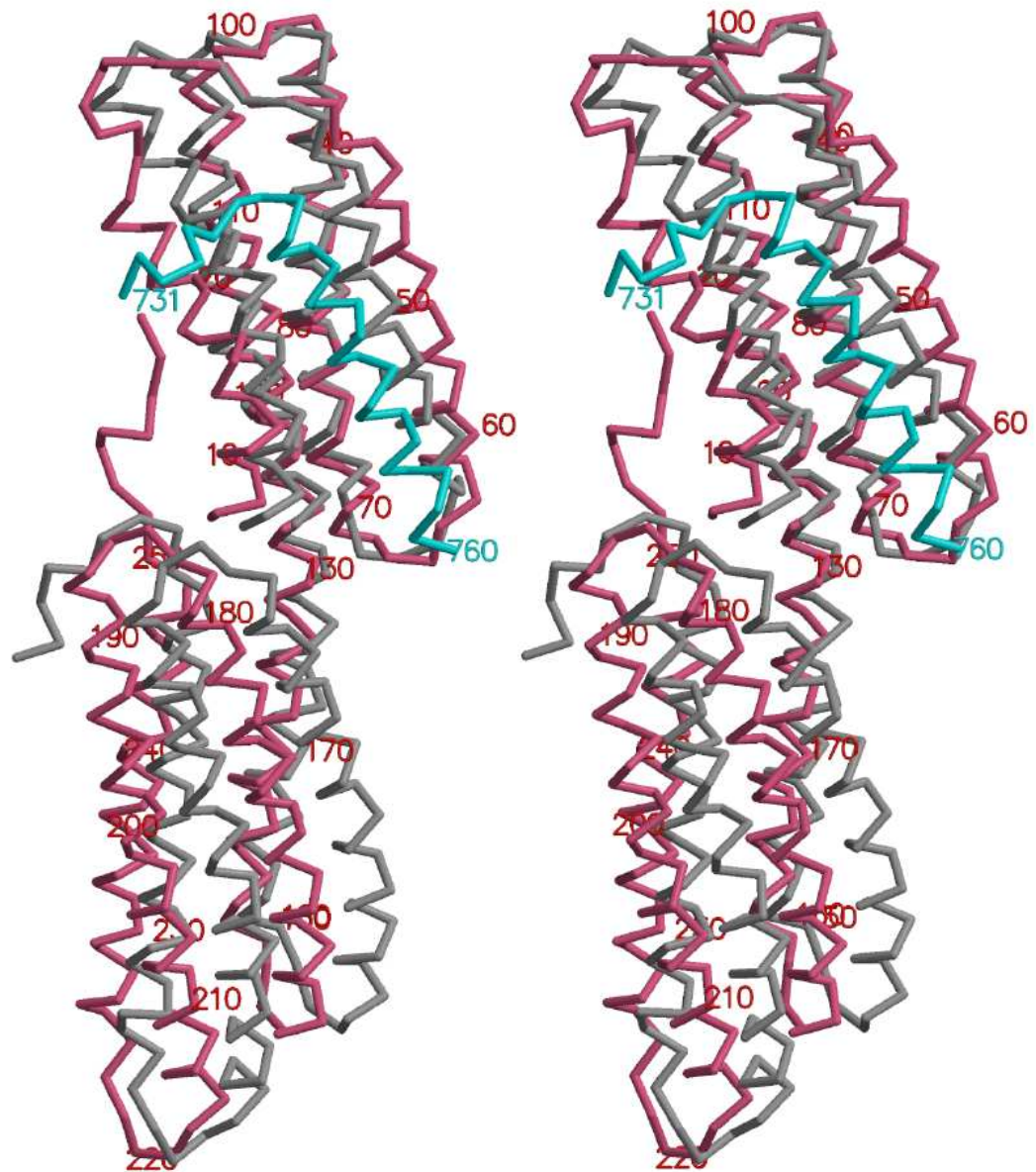
SUPPLEMENTARY Figure Legends

SUPPLEMENTARY DATA, FIG. S1. Stereo $C\alpha$ trace superposition of Vh1 (pink) when bound to α VBS (cyan) onto Vh1 (gray) as found in its closed conformation (A), onto Vh1:talins-VBS1 (B), or onto Vh1:talins-VBS3 (C). Residues 6-130 were superimposed to show the relative movement of the C-terminal helical bundle versus the N-terminal helical bundle upon helical bundle conversion due to binding of α VBS (A), talins-VBS1 (B), or talins-VBS3 (C). Every tenth $C\alpha$ of Vh1: α VBS is labeled in red, while the N- and C-termini of the peptides are labeled in cyan (α VBS) or gray (talins-VBS).

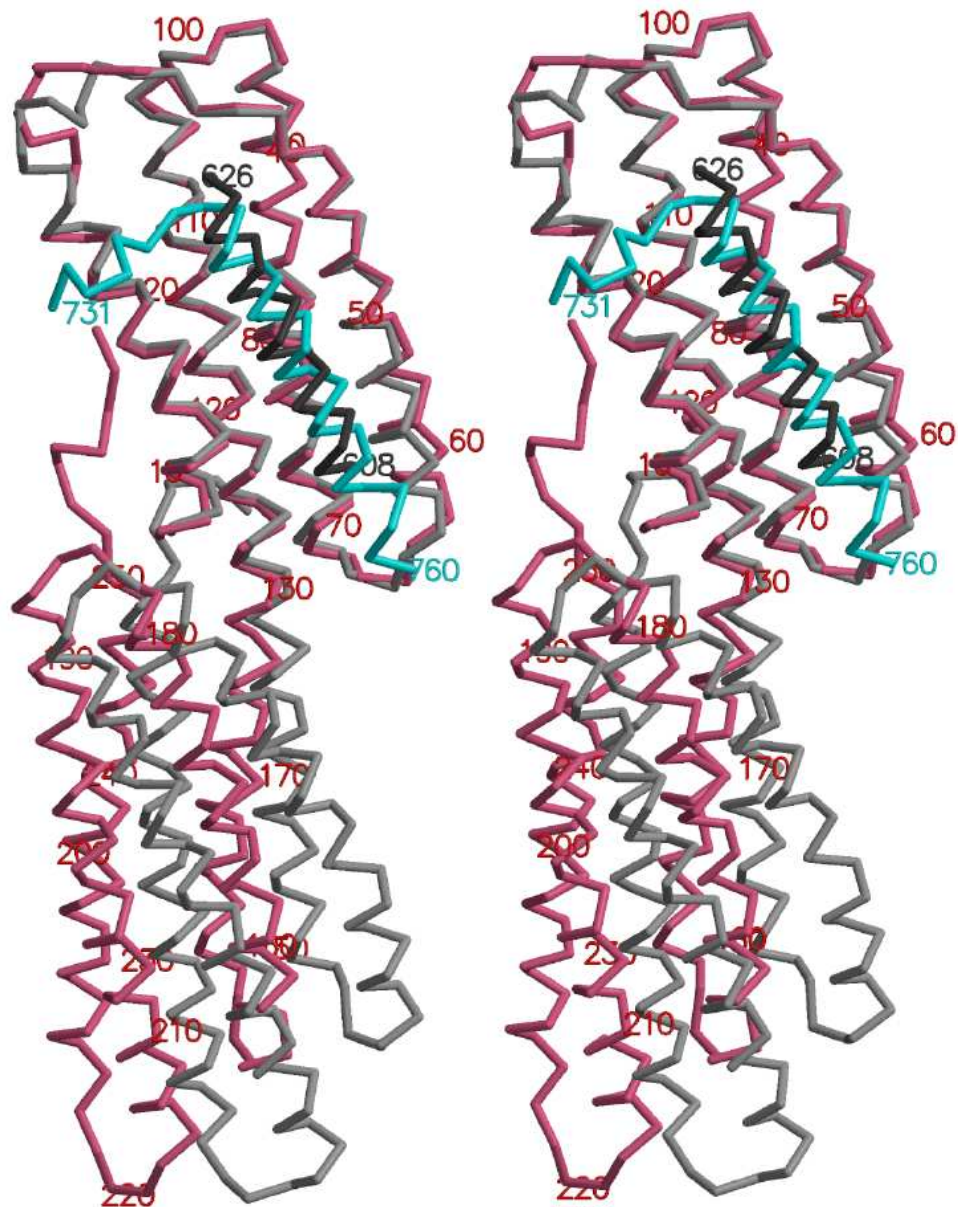
SUPPLEMENTARY DATA, FIG. S2. α VBS- and talins's VBS-bound vinculin differ in their sensitivity to the V8 and chymotrypsin proteases. (A) α VBS-, talins-VBS1- and talins-VBS3-bound vinculin were treated with V8 protease and at the indicated intervals digestion products of vinculin were analyzed by polyacrylamide gel electrophoresis and silver staining of the gels. Cleavage to the 90-kDa head domain of vinculin is shown. Note that talins-VBS1- and talins-VBS3-bound vinculin are more susceptible to V8 protease than α VBS-bound vinculin. The arrow indicates full-length (uncleaved) vinculin. (B) VBS-, talins-VBS1-, and talins-VBS3-bound vinculin were treated with chymotrypsin and at the indicated intervals digestion products of vinculin were analyzed by polyacrylamide gel electrophoresis and silver staining of the gels. Note the two unique high molecular weight peptide fragments specific for α VBS-bound vinculin. The arrow again indicates full-length (uncleaved) vinculin. Results shown are representative of three independent experiments with each protease.

SUPPLEMENTARY DATA, MOVIES 1 AND 2. Helical bundle conversion of vinculin's Vh1 domain following activation by α -actinin (movie 1) or talin (movie 2). The binding of α VBS (cyan; movie 1) or talin-VBS1 (black; movie 2) to Vh1 (pink, movie 1; gray, movie 2) displaces vinculin's tail domain (yellow). The *N*- and *C*-termini of each peptide is labeled. These movies were generated using PyMOL (<http://www.pymol.org>).

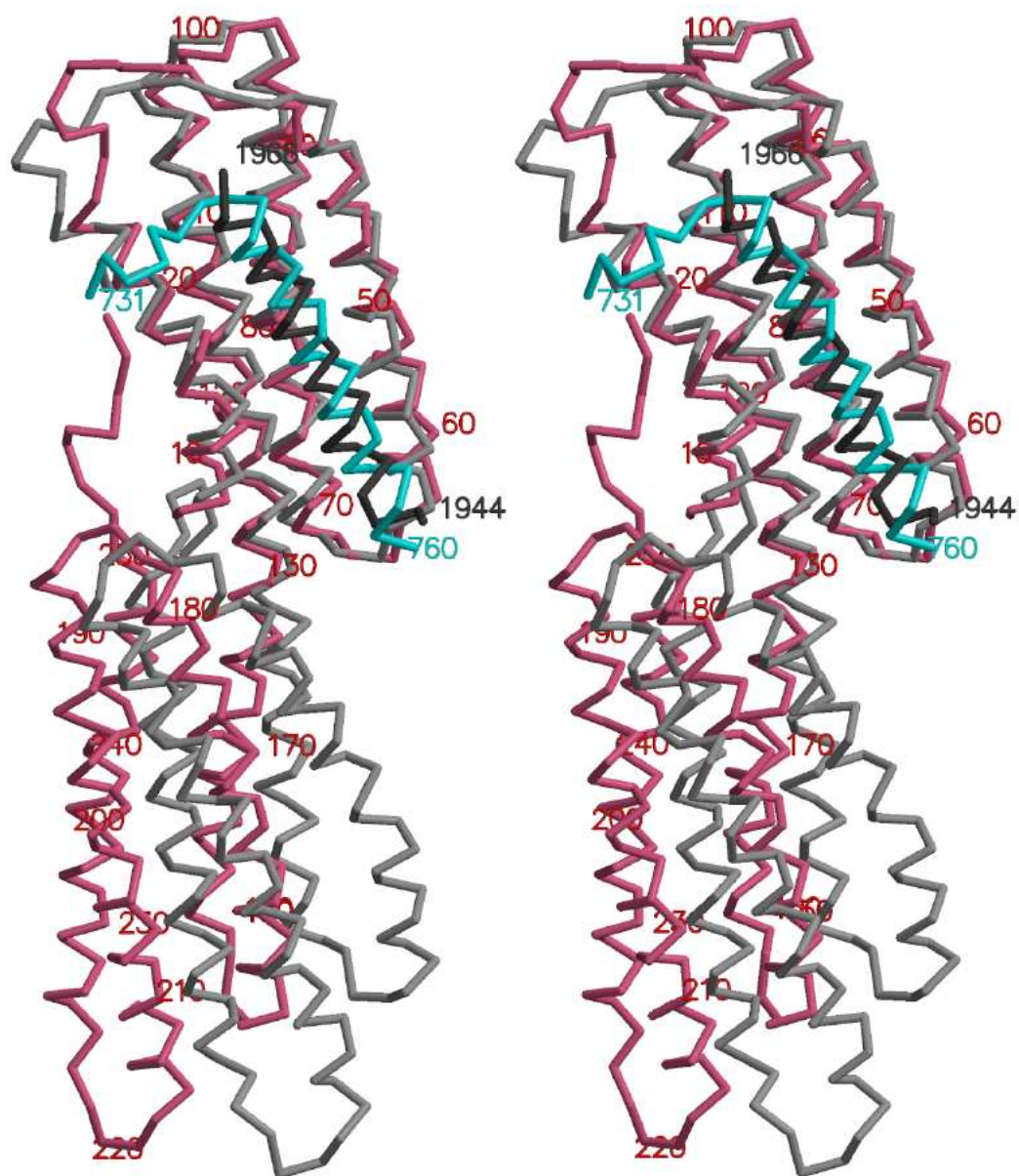
Supplementary Data, Figure S1A



Supplementary Data, Figure S1B



Supplementary Data, Figure S1C



Supplementary data, FIG. S2

