

## Supporting Information for

# Amplification of the Specific Conformational Fluctuation of Proteins by Site-specific Mutagenesis and Hydrostatic Pressure

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Contents: Figures S1, S2, and S3

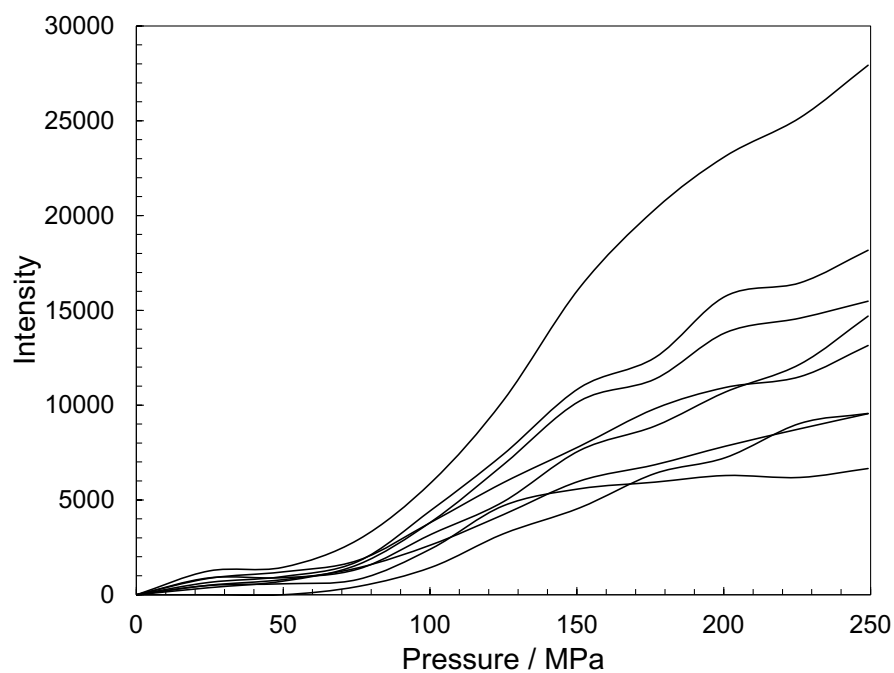


Figure S1. Peak intensities (volumes) of new cross-peaks at different pressures. Eight peaks were selected from dozens of new cross-peaks. The estimation of peak volumes of other new cross-peaks was uncertain due to the peak overlap.

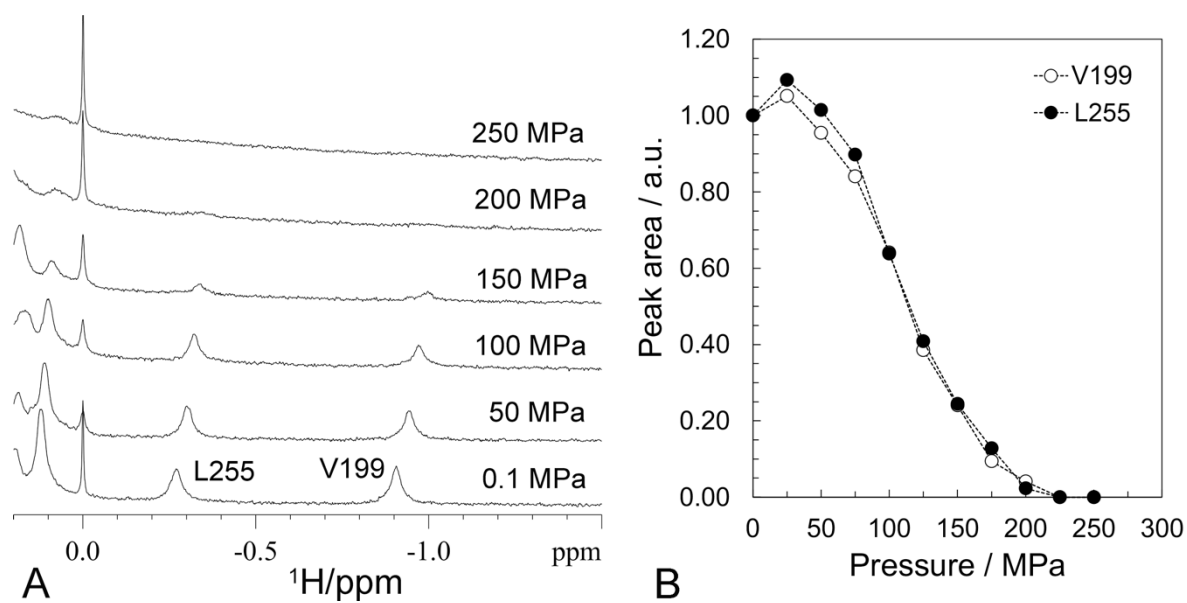


Figure S2. Pressure-induced denaturation of the OspA E160D mutant. (A) Expanded view of the  $^1\text{H}$  one-dimensional NMR spectra of the protein at pressures ranging from 0.1 MPa to 250 MPa. (B) Pressure-induced changes in peak intensities of the methyl groups (-0.28 ppm and -0.91 ppm). The peaks at -0.28 and -0.91 ppm were assigned to methyl protons of L255 and (closed circles) and V199 (open circles), respectively.

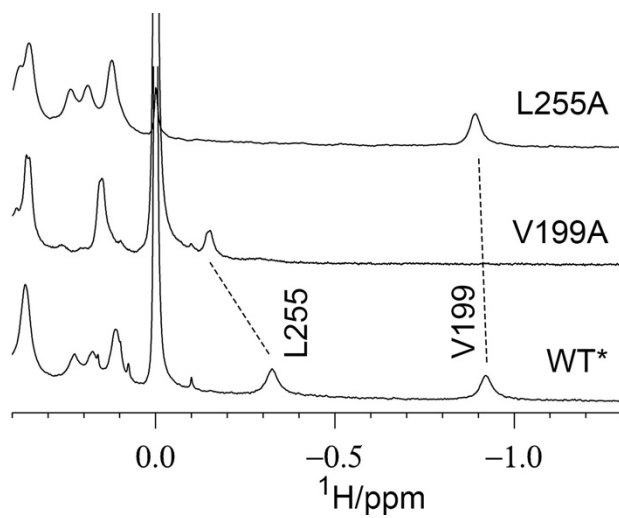


Figure S3. NMR signal assignments of two methyl peaks of OspA WT\*.  $^1\text{H}$  NMR spectra are compared among WT\*, V199A mutant, and L255A mutant proteins.