Supplementary Information
Role of a Glutamate Bridge Spanning the Dimeric Interface of
Human Manganese Superoxide Dismutase

Patrick S. Quint, John F. Domsic, Diane E. Cabelli,
 Robert McKenna, and David N. Silverman

Figure S1: Normalized transition for E162D MnSOD using a protein concentration of 1.0 mg/ml (monomer) and a cubic baseline correction. Transition values were determined using a non-two-state model. The black line is the calorimetric trace that has been normalized and the red line is a fit of the non-two state model which assumes non-cooperative transitions. The model assumes a Gaussian distribution of temperature differentials for a more precise calculation of T_m . The average temperatures for inactivation (T_i) and melting (T_m) of E162D MnSOD are 71.9° C and 87.6° C respectively. Traces are the average of 3 scans with subtraction of the reference buffer.

Figure S2. Normalized transition for wild-type MnSOD using a protein concentration of 0.5 mg/ml (monomer) and a cubic baseline correction. The T_m values were determined using a non-two-state model. The average T_i and T_m of WT MnSOD were 72.4° C and 93.5° C respectively. Traces are the average of 3 scans with subtraction of the reference buffer.

Figure S3: Normalized transition for E162A MnSOD using a protein concentration of 1.0 mg/ml (monomer) and a cubic baseline correction. The T_m values were determined using a non-two-state model. The average thermal melting temperature for E162A MnSOD was 77.0° C with a shoulder at 81.4° C. Traces are the average of 3 scans with subtraction of the reference buffer.