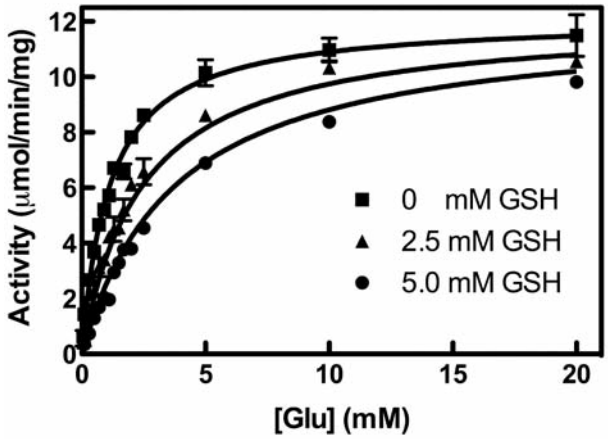
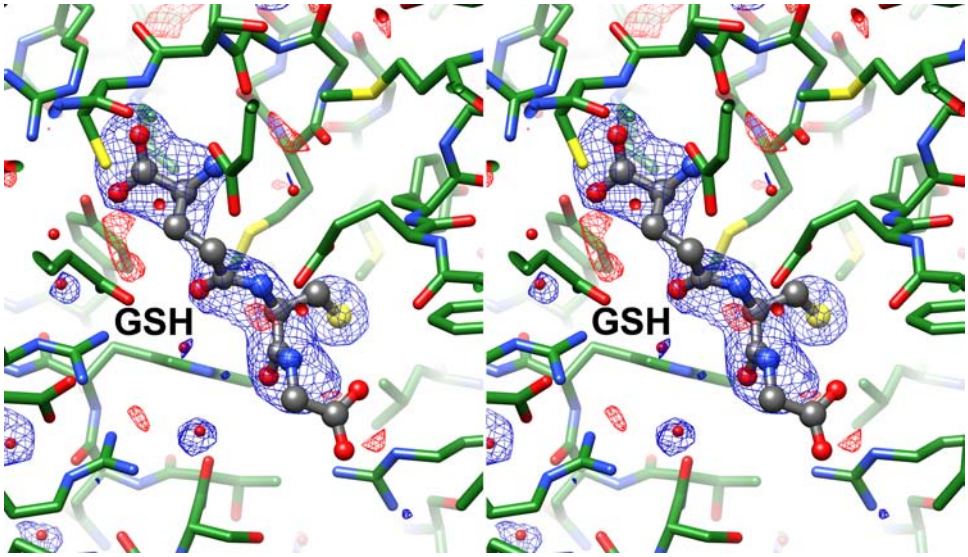
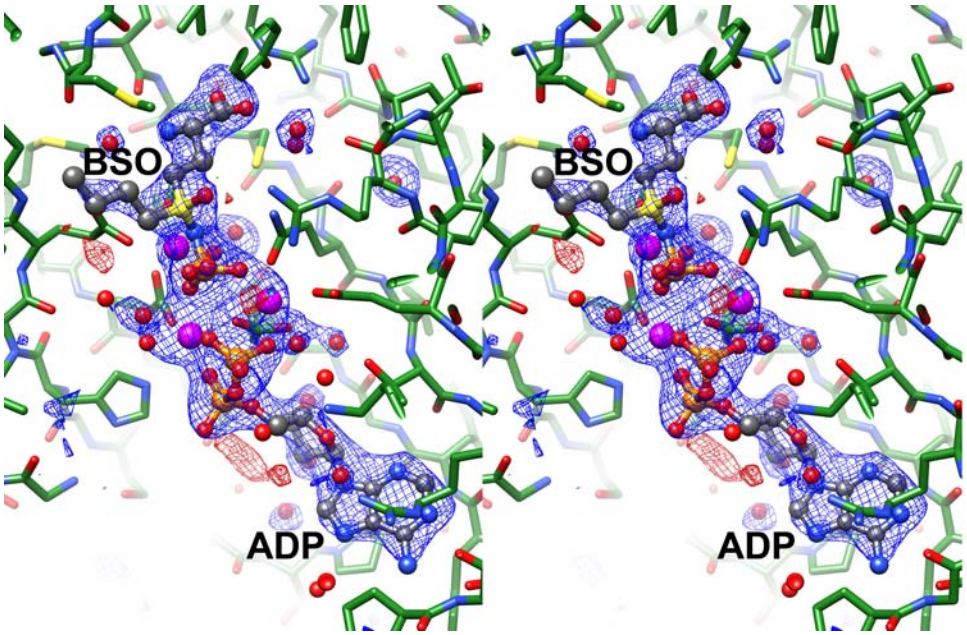
Supplemental data.



Supplemental Figure 1. To examine the mode of inhibition of glutathione, rates for the enzyme-catalyzed reaction as a function of glutamate concentration were determined in the presence of fixed concentrations of glutathione (0, 2.5, and 5.0 mM). Global analysis of the dependence of rate versus substrate concentration indicated that glutathione was a competitive inhibitor with respect to glutamate, with an apparent K_i (GSH) of 2.12 ± 0.13 mM.



Supplemental Figure 2. The structure of ScGCL in complex with glutathione was determined by molecular replacement using the apo form of ScGCL as a probe. Shown in the stereodiagram is the calculated difference map prior to the inclusion of ligands and solvent in the model. Positive and negative peaks are contoured at 3.0 σ and shown in blue and red respectively. The final ScGCL-GSH model corresponding to this region of the map is shown in stick representation with carbon atoms colored in green, oxygen in red, nitrogen in blue, and sulfur in yellow. Glutathione is shown in ball and stick representation with carbon atoms colored grey.



Supplemental Figure 3. The structure of ScGCL in complex with phosphorylated BSO and ADP was determined by molecular replacement using the apo form of ScGCL as a probe. Shown in the stereodiagram is the calculated difference map prior to the inclusion of ligands and solvent in the model. Positive and negative peaks are contoured at 3.0 σ and shown in blue and red respectively. The final ScGCL-BSO model corresponding to this region of the map is shown in stick representation with carbon atoms colored in green, oxygen in red, nitrogen in blue, sulfur in yellow, magnesium in magenta, and phosphorus in orange. BSO and ADP are shown in ball and stick representation with carbon atoms colored grey.