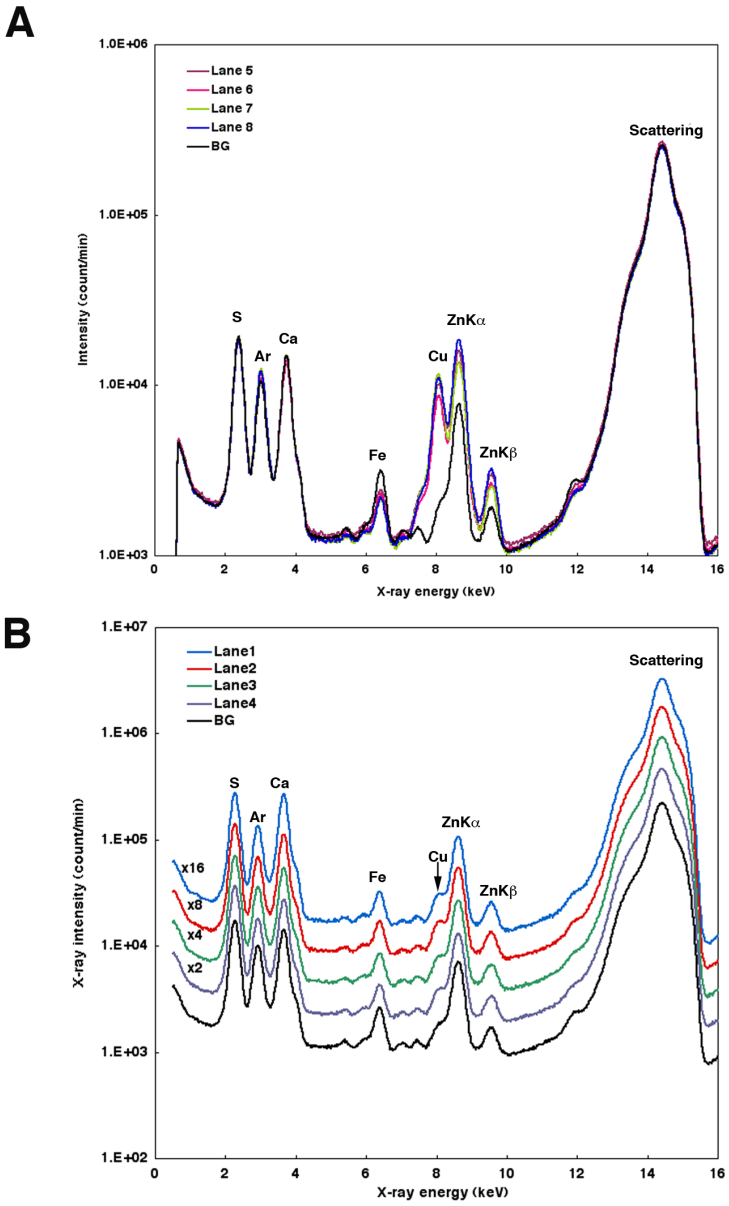
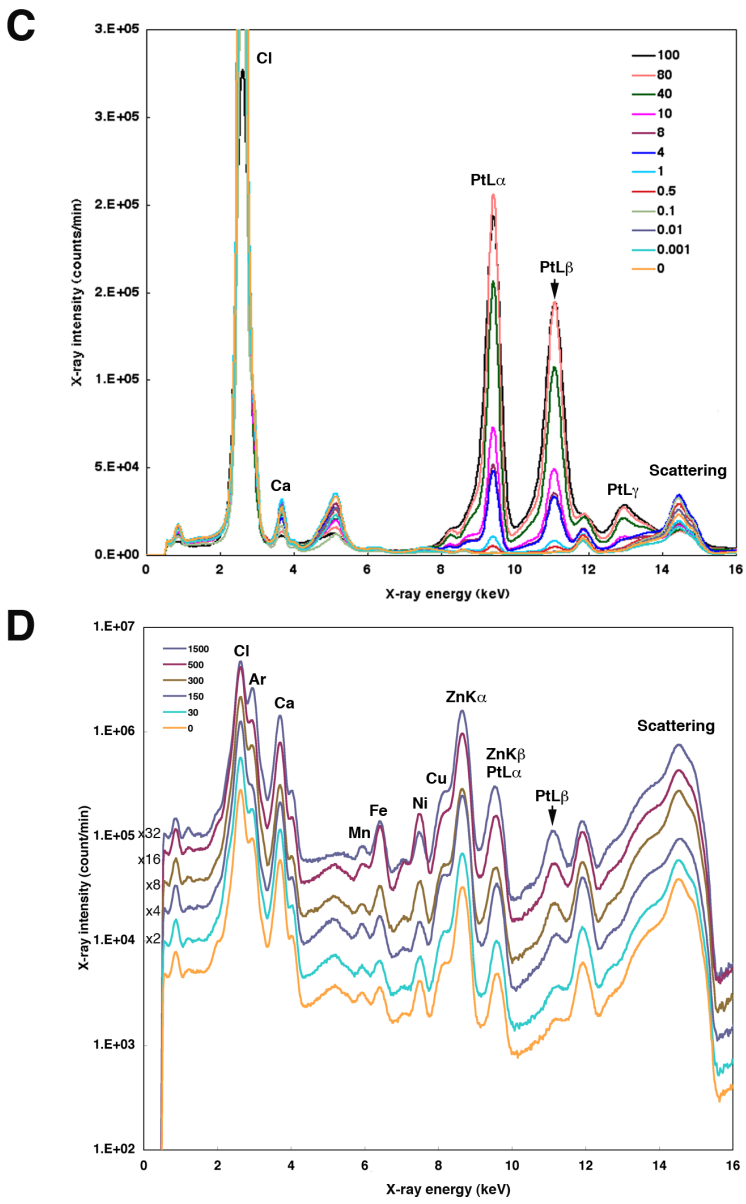
Supplementary Figure 1A, 1B



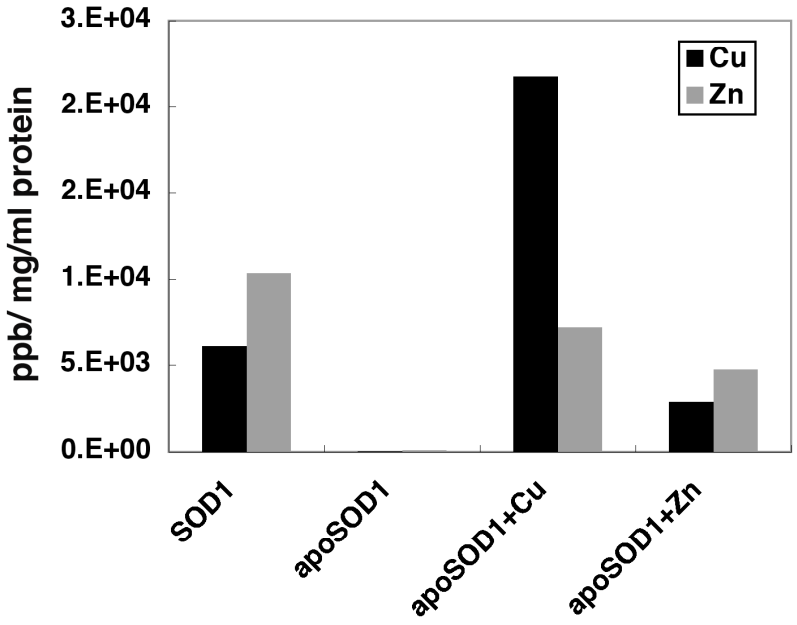
Supplementary Figure 1 Full spectra of the data given in Figs. 1B (right panel, lanes 5–8), 2B, 3B, and 3D. (A) Spectra of Fig. 1B (right panel, lanes 5–8) and the gel background (BG) using an IEF gel. Integrated X-ray fluorescence spectra of 12.5 µg of SOD1 and treated-SOD1. (B) Spectra of Fig. 2B using IEF gels. Integrated X-ray fluorescence spectra of 12.5 µg of HPLC fractions (lanes 1–4) and the gel background (BG). The vertical axis represents integrated counts after 60 s.

Supplementary Figure 1C, 1D



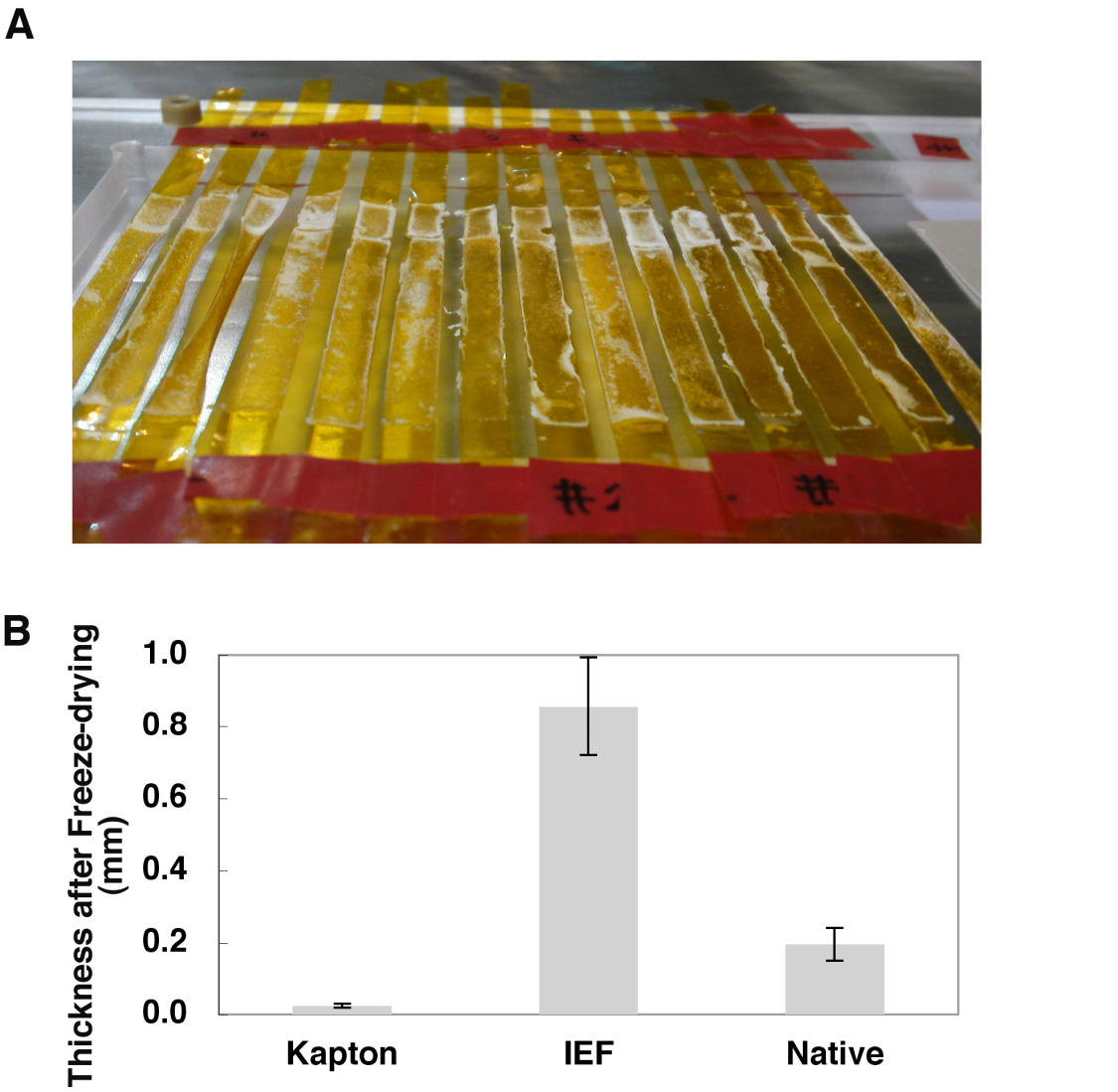
Supplementary Figure 1 Full spectra of the data given in Figs. 1B (right panel, lanes 5–8), 2B, 3B, and 3D. (C) Spectra of Fig. 3B using a native-gel film. Integrated X-ray fluorescence spectra of each CDDP amount in gels (0.001–100 pg). (D) Spectra of Fig. 3D using a native-gel film. Integrated X-ray fluorescence peak spectra of BSA bound to CDDP in gels. The vertical axis represents integrated counts after 60 s.

Supplementary Figure 2



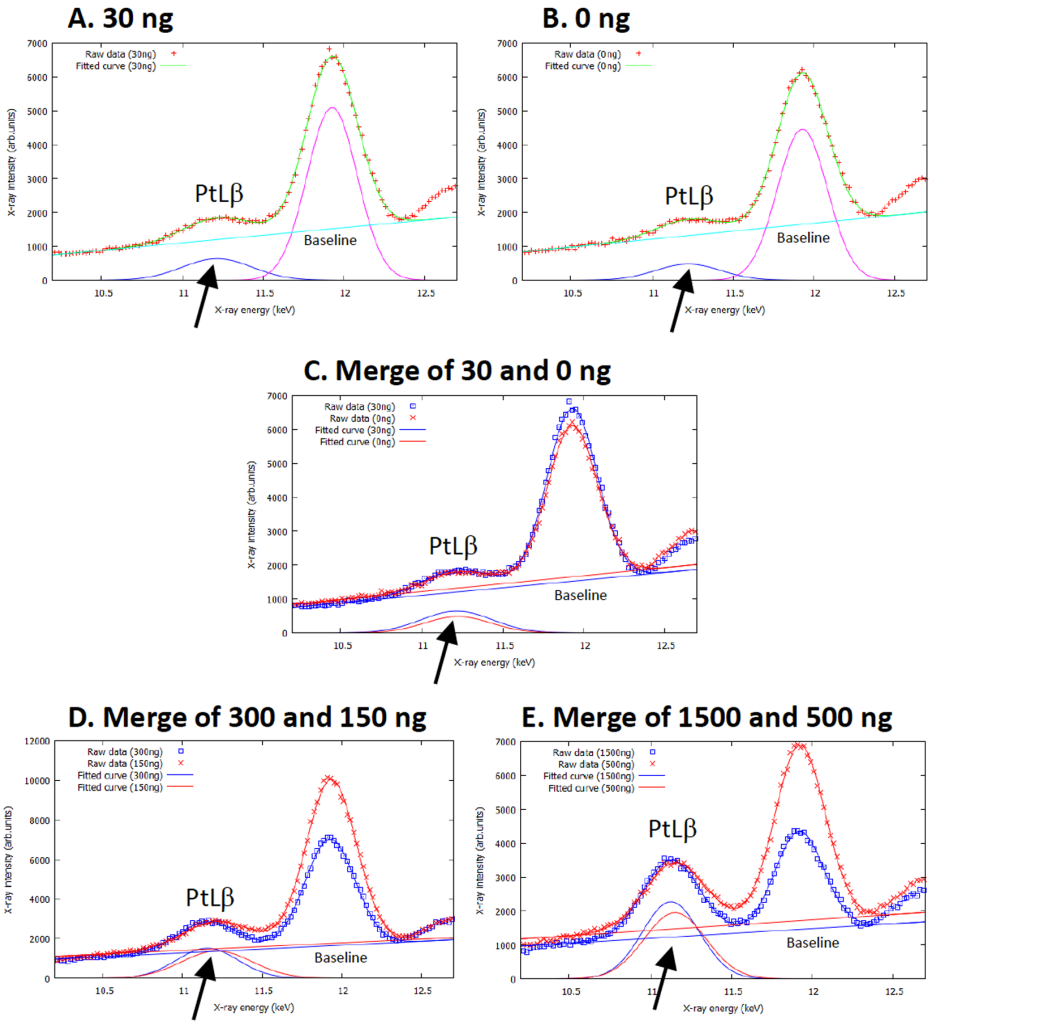
Supplementary Figure 2 Solutions of SOD1 and treated-SOD1 from a different batch than that used to generate Fig. 1B (lane 5-8) were analyzed with ICP-MS prior to IEF electrophoresis. Zinc or copper contamination was found in the solutions of apoSOD1+Cu or apoSOD1+Zn, respectively. Briefly, each protein solution was wet-digested with 1.0 mL HNO₃ at 160°C for 12 h to determine the metal concentrations. Then, the digested solution was diluted with ultrapure water to 10 mL. ⁶⁵Cu and ⁶⁶Zn concentrations were determined by ICP-MS (HP-7500; Agilent Technologies, Santa Clara, CA, USA). apoSOD1, chelated-SOD1; apoSOD1+Cu, chelated-SOD1 treated with CuSO₄; apoSOD1+Zn, chelated-SOD1 treated with ZnCl₂; Zn, zinc; Cu, copper.

Supplementary Figure 3



Supplementary Figure 3 (A) Native-gel films after freeze-drying. A native-gel film was 3 × 60 mm in length. A gel consists of stacking and separating gels. (B) Thickness of each gel used for the study. The thickness was measured using calipers more than 15 times, and the mean and standard deviation were calculated. Kapton, polyimide film; IEF, IEF-gel (pH 3–10, IEF-gel EC6655A, Invitrogen); Native, native-gel film.

Supplementary Figure 4



Supplementary Figure 4 The peaks in Fig. 3D were fitted using Gnuplot 4.6. Two Gaussian functions and one straight line were fitted to the experimental data. Spectral data were acquired with (A) 30 ng CDDP and (B) 0 ng CDDP, corresponding to Fig. 3D. (C) A merged graph of (A) and (B). (D) A merged graph of the spectra of 300 ng CDDP and 150 ng CDDP after the peak-fitting process. (E) A merged graph of the spectra of 1500 ng CDDP and 500 ng CDDP after the peak-fitting process. According to the peak fitting, the PtLβ peak of the 30 ng is greater than that of the 0 ng sample because the baseline as a background is slightly different. This effect also yielded similar results at 150 & 300 ng, and 500 & 1500 ng. The PtLβ peak of the 300 ng is greater than that of the 150 ng sample, and the PtLβ peak of the 1500 ng is greater than that of the 500 ng sample. Arrow, the extracted PtLβ peak; Baselines, the baseline obtained by the fitting process.