Supplementary Electronic material for post-column IDA

$$MFs = C_{sp} \cdot f_{sp} \cdot d_{sp} \cdot \frac{Aw_s}{Aw_{sp}} \cdot \frac{A^{65}{}_{sp}}{A^{63}{}_{s}} \cdot \frac{R_m - R_{sp}}{(1 - R_m \cdot R_s)}$$

Measured isotope ratio (63/65) on each point of the chromatogram

$$MFs = 20.84\ ng\ mL^{-1} \cdot 0.2\ mL min^{-1} \cdot 1 g ml^{-1} \cdot \frac{63.54}{64.92} \cdot \frac{99.71}{69.15} \cdot \frac{(ICP\text{-}MS) - 0.003}{(1 - (ICP\text{-}MS) \cdot 0.446)}$$

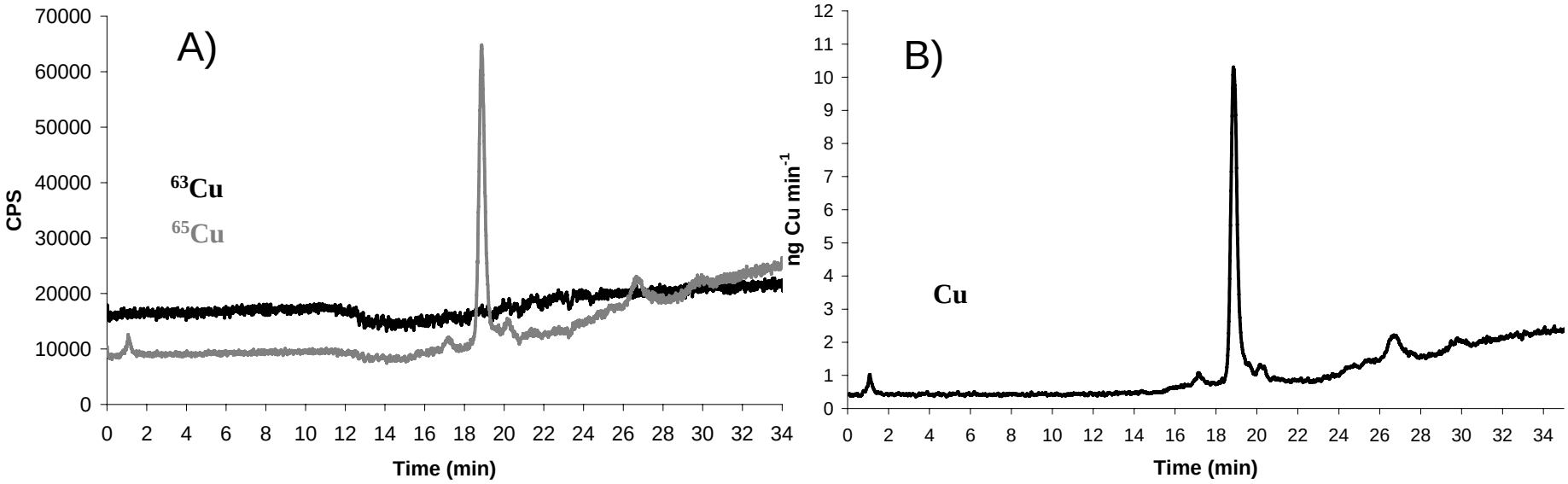

Figure: A) Copper signal of the isotopically enriched bovine SOD1 obtained in the laboratory. B) Mass flow chromatogram after the Isotope dilution equation was applied

Species-specific-IDA

$$C_s = C_{sp} \frac{m_{sp}}{m_s} \frac{M_s}{M_{sp}} \frac{A^b_{sp}}{A^a_s} \left(\frac{R_m - R_{sp}}{1 - R_m * R_s} \right)$$

$$\text{Cs (ng mL}^{-1}\text{)} = 166.97 \text{ ng g}^{-1} . \frac{0.1 \text{ g}}{2.5 \text{ g}} . \frac{63.55}{64.90} . \frac{98.44}{69.15} . \left(\frac{1.075 - 0.016}{1 - 1.075 * 0.446} \right)$$

In this case, the isotope ratios (63/65) are measured by integration of the Cu peak at both masses and the peak area iserted into the equation.