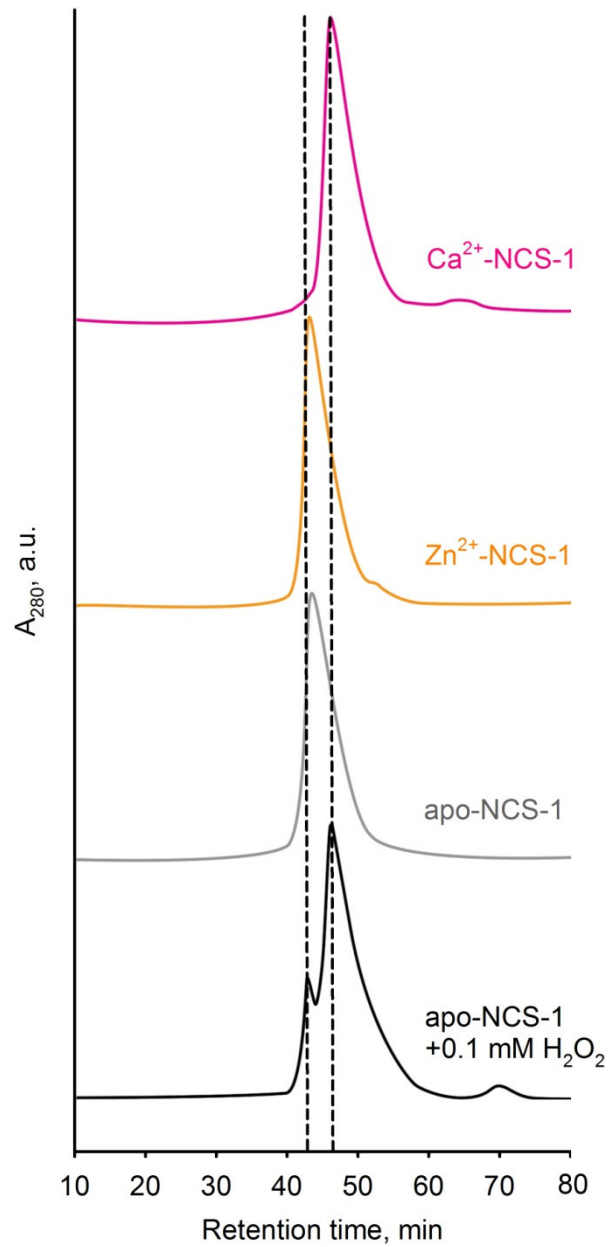
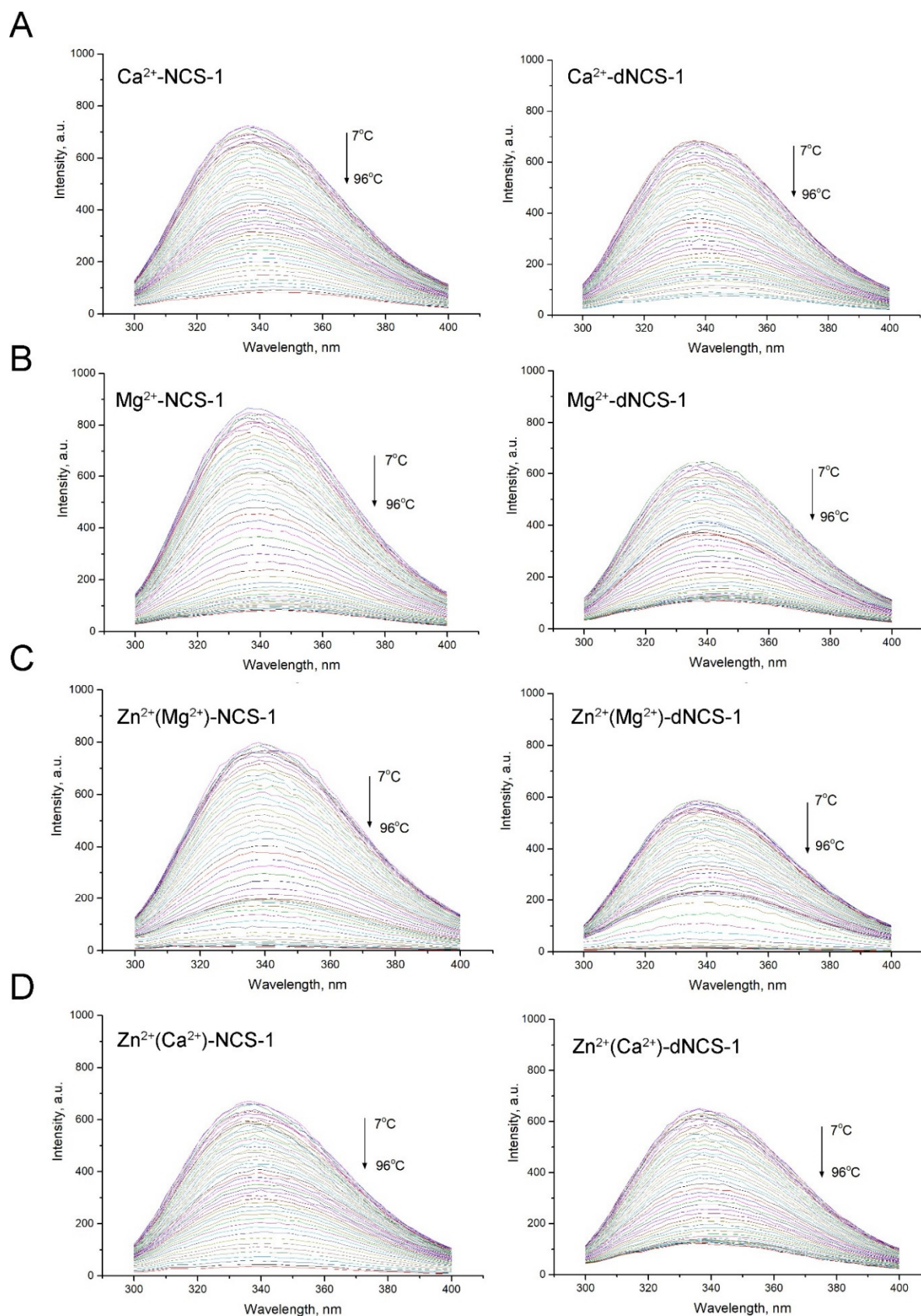


**Figure S1. Zinc-dependent disulfide dimerization of NCS-1 in HEK293 cells.** NCS-1-transfected cells were incubated for 60 min with 10 mM H<sub>2</sub>O<sub>2</sub> and increasing concentrations of Zn<sup>2+</sup> in the presence of zinc ionophore chloroquine. Disulfide forms of NCS-1 were detected by Western blotting of cell lysates conducted under non-reducing conditions.



**Figure S2. Zinc-dependent non-covalent dimerization of NCS-1 *in vitro*.** Aliquots of recombinant NCS-1 were analyzed using high-resolution gel filtration in the presence of either 1 mM CaCl<sub>2</sub>, 0.1 mM ZnCl<sub>2</sub> or 1 mM EGTA (apo-protein). Mixture of NCS-1 and dNCS-1 obtained as a result of brief incubation of the protein with 0.1 mM H<sub>2</sub>O<sub>2</sub> was applied as reference.



**Figure S3. Monitoring of thermal denaturation of NCS-1 and dNCS-1 using intrinsic fluorescence measurements.** Tryptophan fluorescence spectra of were registered at different temperatures (7-96 °C) in the presence of 1 mM  $\text{Ca}^{2+}$  (A), 1 mM  $\text{Mg}^{2+}$  (B), 1 mM  $\text{Mg}^{2+}$  and 0.1 mM  $\text{Zn}^{2+}$  (C), 1 mM  $\text{Ca}^{2+}$  and 0.1 mM  $\text{Zn}^{2+}$  (D).