

Electronic Supporting information for:

CaF₂ nanoparticles as surface carriers of GCAP1, a calcium sensor protein involved in retinal dystrophies

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Figure S1

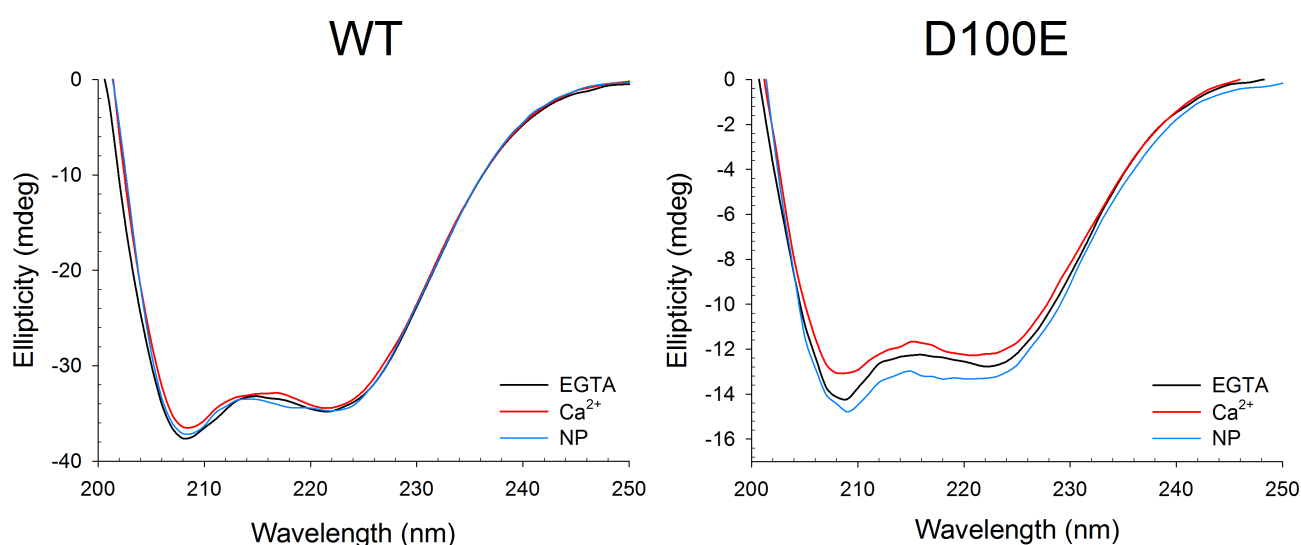


Figure S1: Far UV CD spectra of WT and D100E GCAP1 isolated and in complex with CaF₂ NP. Left: Far UV CD spectra of 20.2 μ M WT GCAP1 in the presence of 300 μ M EGTA (black), 600 μ M Ca²⁺ (red) and 2.4 mg \times ml⁻¹ NP (blue). Right: Far UV CD spectra of 10 μ M D100E GCAP1 in the presence of 300 μ M EGTA (black), 600 μ M Ca²⁺ (red) and 2.4 mg \times ml⁻¹ NP (blue).

Figure S2

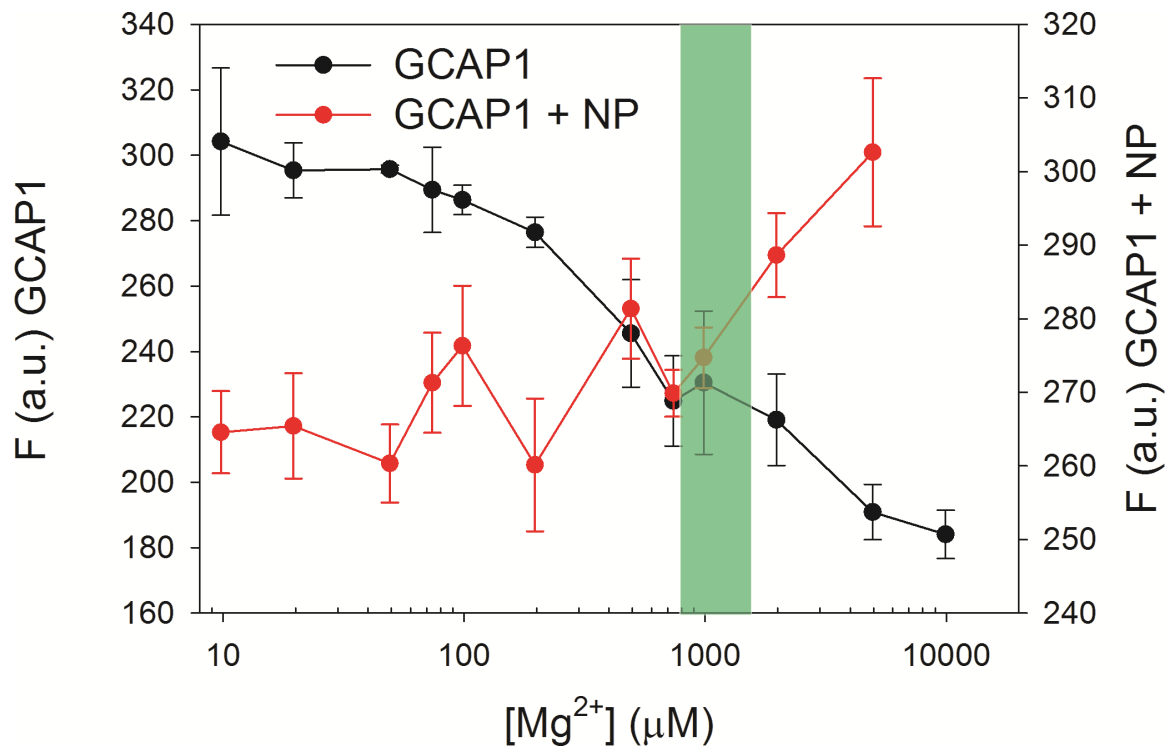


Figure S2: Mg^{2+} fluorescence titrations of 0.7 μM WT GCAP1 in the absence (black) and in the presence (red) of 0.0875 $mg \times ml^{-1}$ NP. Data are presented as average and standard deviation of 2 repetitions. Green area represents the physiological intracellular $[Mg^{2+}]$ (800-1500 μM).

Figure S3

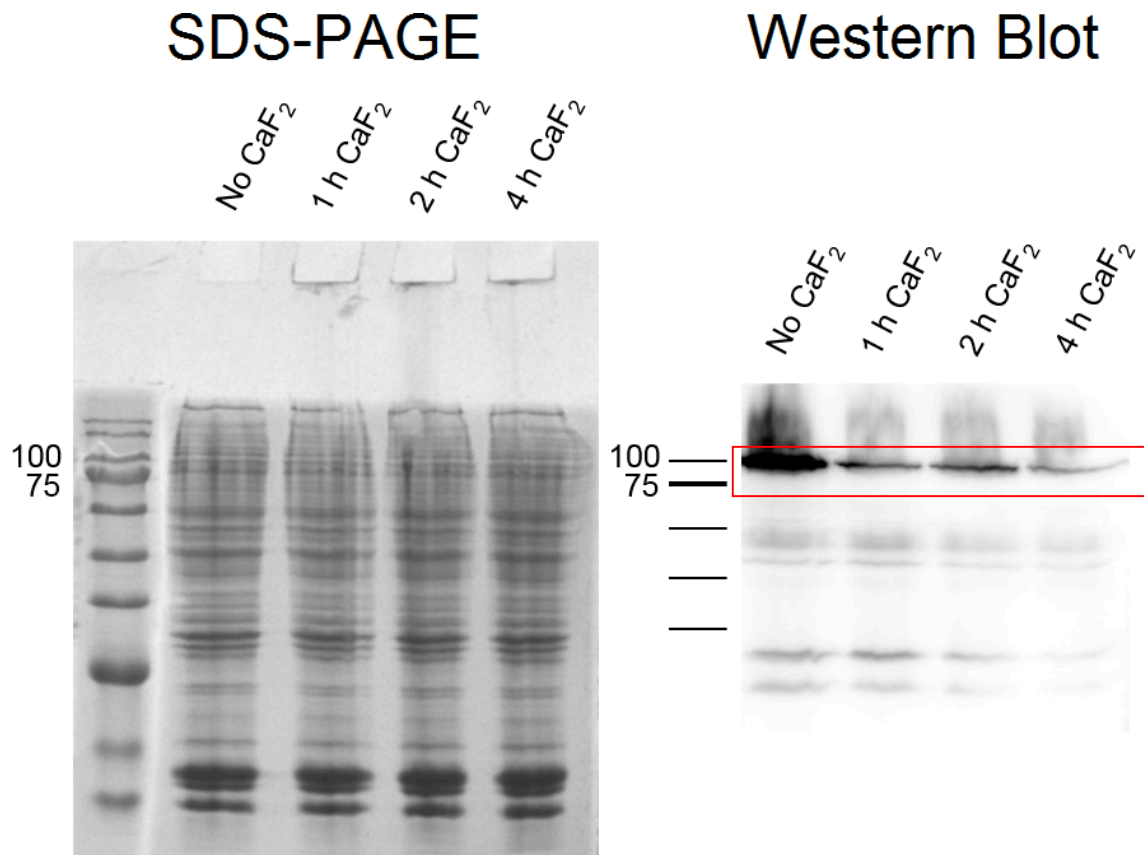


Figure S3: Interference of CaF₂ NP with the protein expression pattern in HEK cells. SDS-PAGE and Western Blot analysis were performed with HEK cells expressing recombinant GC (GC-E). Cells were treated with CaF₂ NP at indicated time points (1, 2 or 4h). After electrophoresis the gel was stained with Coomassie Blue (left panel) showing all protein bands in nearly identical intensity. Presence of GC in the cell samples was detected by an anti-GC-E antibody (Western blot, right panel) showing decreasing intensity of the GC protein band at 100 kDa (red frame) and to a lower degree a decreasing intensity of degradation products of GC-E. The ROS-GC-E Antibody from Santa Cruz; Heidelberg was used (dilution 1:1000; from rabbit).