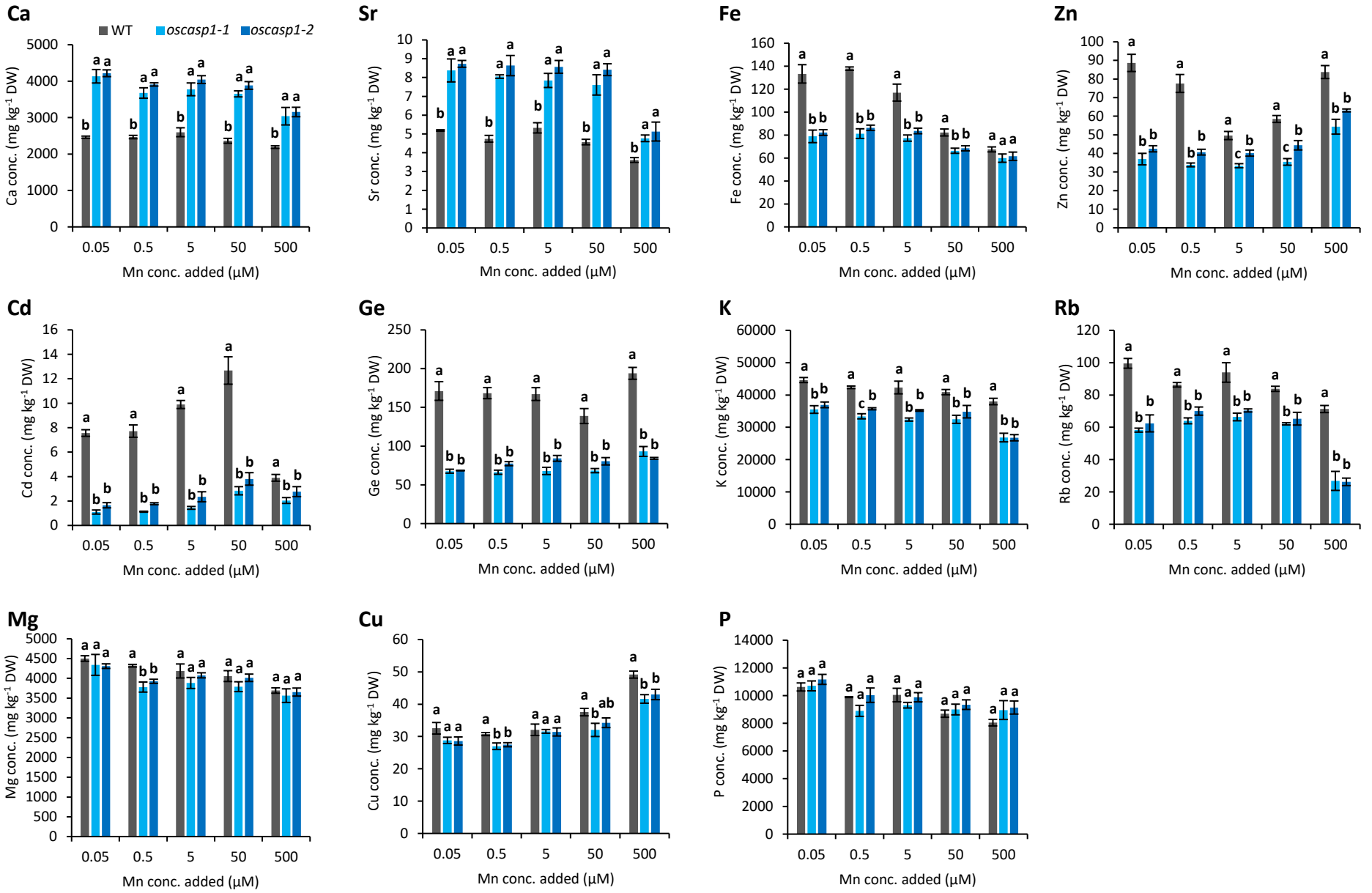
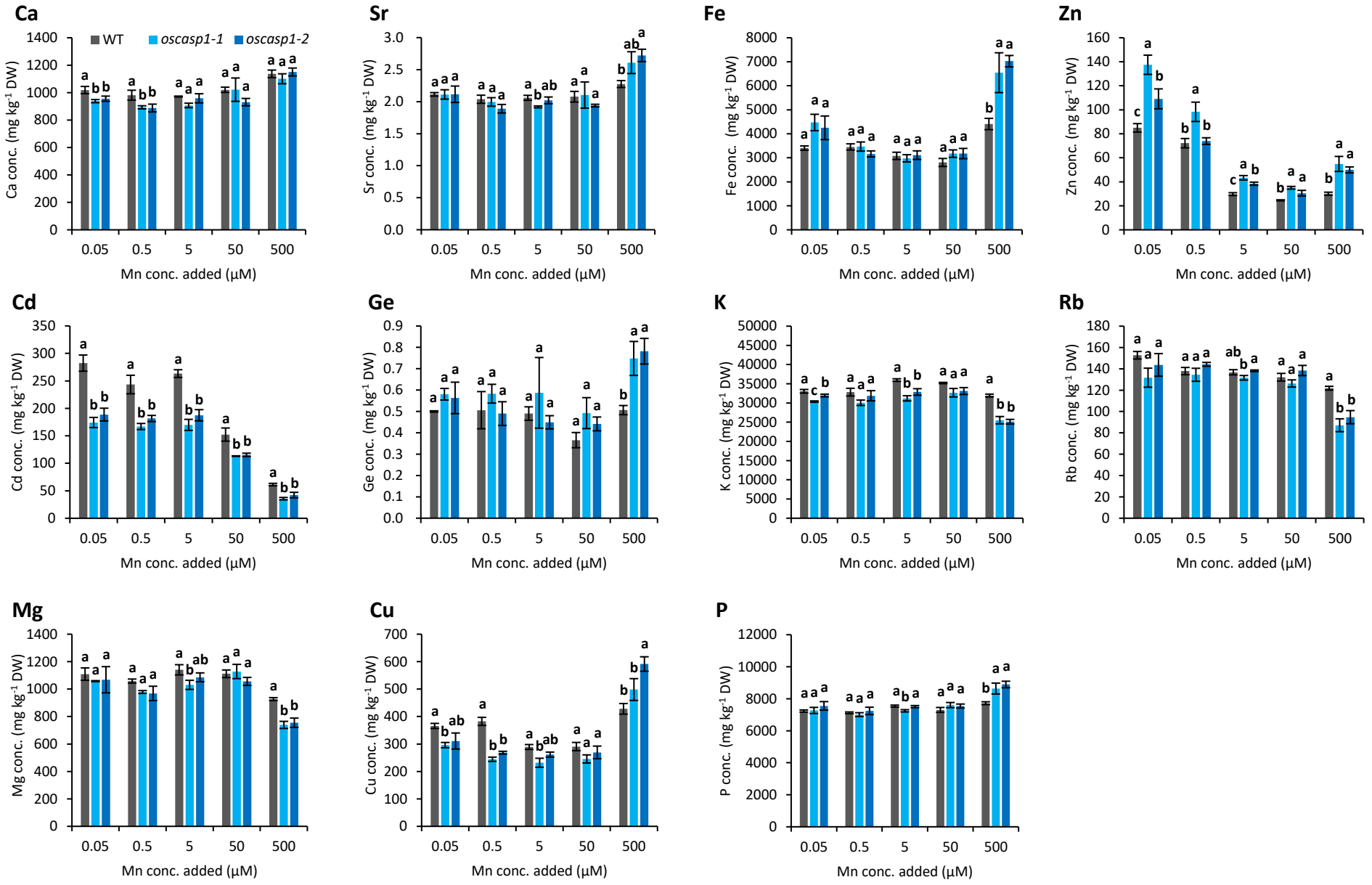



**Supplementary Fig. S1. Mineral element concentration in the shoots of wild type (WT) and *oscasp1* mutants grown at different Mn concentrations.** Concentration of Ca, Sr, Fe, Zn, Cd, Ge, K, Rb, Mg, Cu and P in shoots of WT and *oscasp1* mutants. After the seedlings (15-day-old) of both WT and *oscasp1* mutants were grown in a nutrient solution containing 0.05, 0.5, 5, 50, 500 μM Mn for 16 d, the plants were exposed to a nutrient solution containing 1 μM of Sr, Rb, Ge, and Cd for 1 d before harvest. The shoots were harvested for mineral element analysis by ICP-MS. The data are presented as means ±SD (n=3). Significant differences were determined by Tukey–Kramer's test and labeled with different letters ($P$<0.05).




**Supplementary Fig. S2. Mineral element concentration in roots of wild type (WT) and *oscasp1* mutants grown at different Mn concentrations.** Concentration of Ca, Sr, Fe, Zn, Cd, Ge, K, Rb, Mg, Cu and P in roots of WT and *oscasp1* mutants. After the seedlings (15-day-old) of both WT and *oscasp1* mutants were grown in a nutrient solution containing 0.05, 0.5, 5, 50, 500 μM Mn for 16 d, the plants were exposed to a nutrient solution containing 1 μM of Sr, Rb, Ge, and Cd for 1 d before harvest. The roots were harvested for mineral element analysis by ICP-MS. The data are presented as means ±SD (n=3). Significant differences were determined by Tukey–Kramer's test and labeled with different letters ($P$<0.05).