

Figure 1

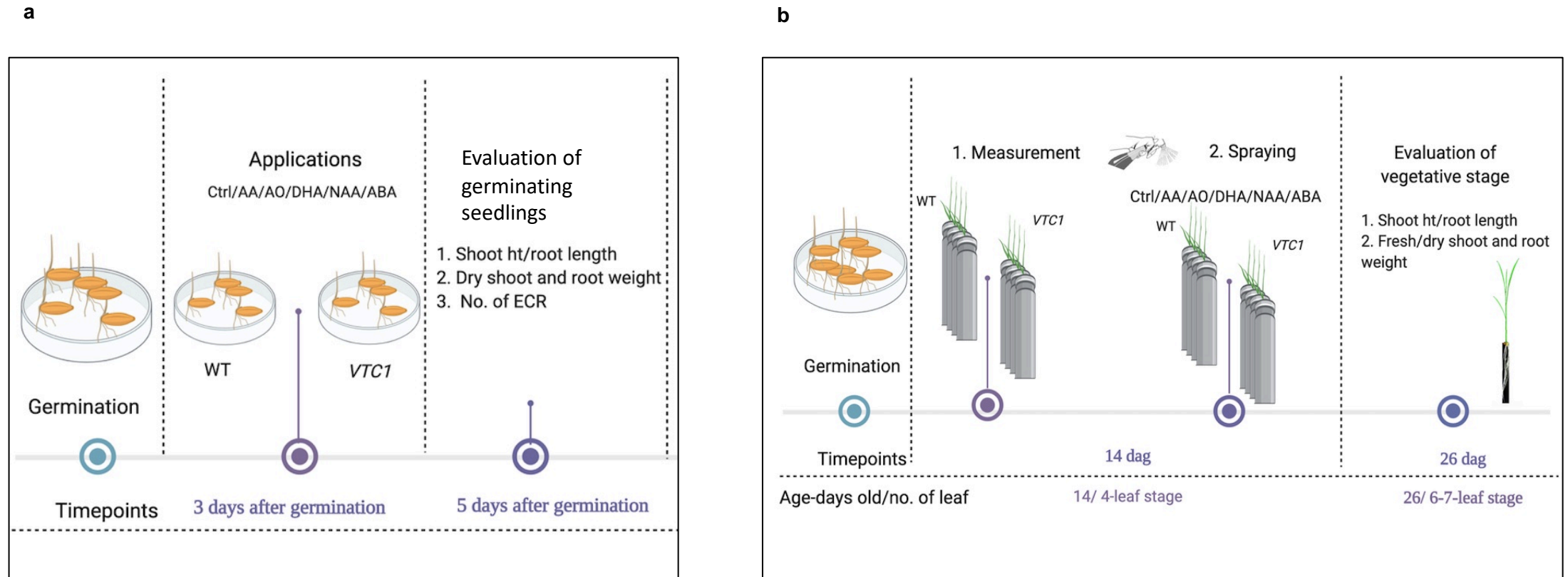


Fig. S1. Overview of experimental design. **(a)** Schematic diagram of the experimental setup for evaluation of phenotype in germinating seedlings with application of chemicals. **(b)** Schematic diagram of the experimental setup for evaluation of phenotype in the early vegetative growth stage. For evaluation of growth in germinating seedling, seeds were set for germination and at 3 dag were treated with chemicals and left in the incubator for growth. At 5 dag measurements were taken. For evaluation of early vegetative growth, seeds were set for germination and at 5 dag seedlings were transferred to SAP-substrate and further grown under controlled environmental conditions. Plants were sprayed at 14 dag and evaluated at 26 dag for their early vegetative growth.

Figure 3

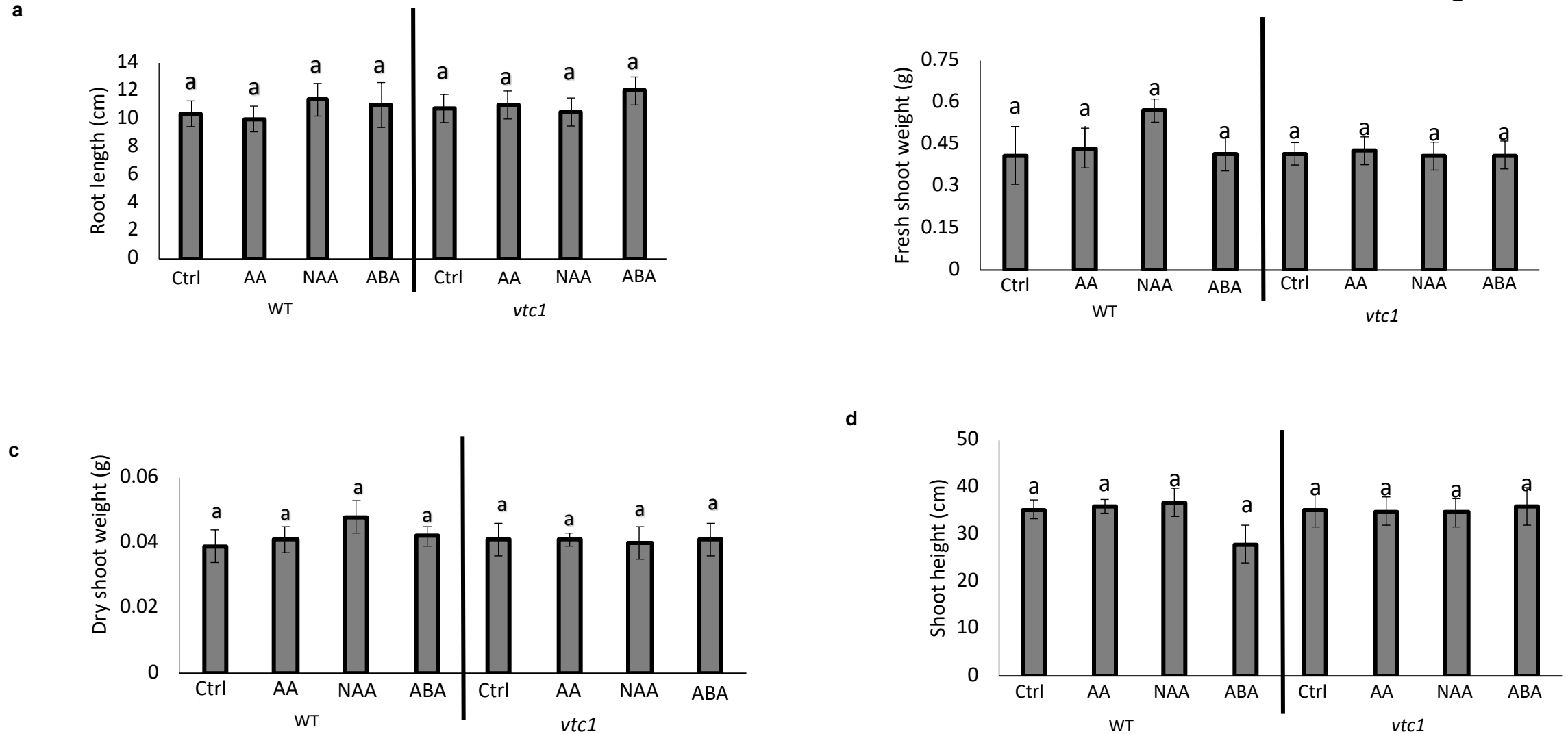


Fig. S2. Effect of exogenous AA, NAA or ABA on early vegetative growth of AA-deficient *vtc1* mutant and WT. The effect on early vegetative growth is observed at 15 dag on (a) root length, (b) fresh shoot weight (c) dry shoot weight (d) shoot height. Seeds were set for germination and at 5 dag seedlings were transferred to SAP-substrate and further grown under controlled environmental conditions (26°C:24°C, day:night temperature, 70% relative humidity, 12 h:12 h, light:dark cycle). Plants were sprayed at 14 dag with respective concentration of chemicals and evaluated at 26 dag for their growth phenotype. The data show the mean and standard error bars of 10 seedlings per treatment. Data was analyzed by one-way ANOVA followed by Tukey post-hoc test to compare differences among the treatment groups. Data represent one of the two independent experiments with similar results.

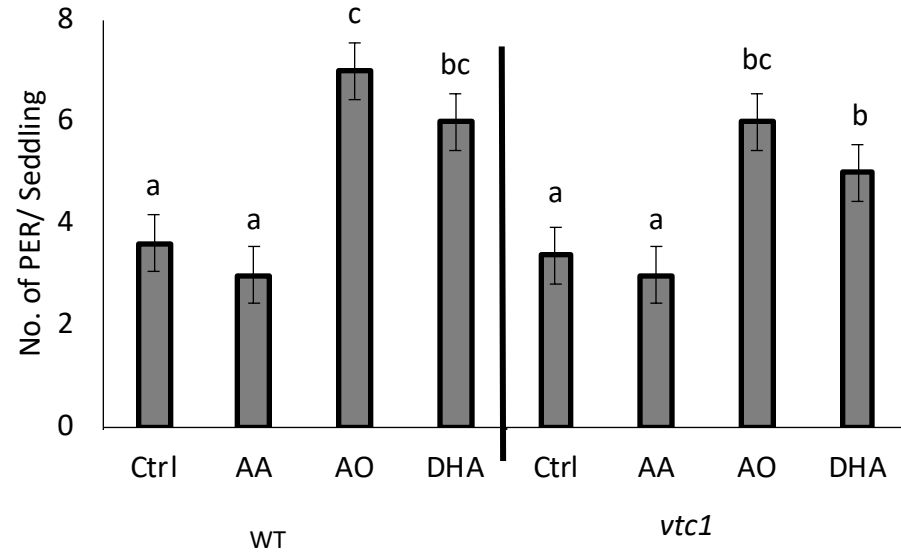
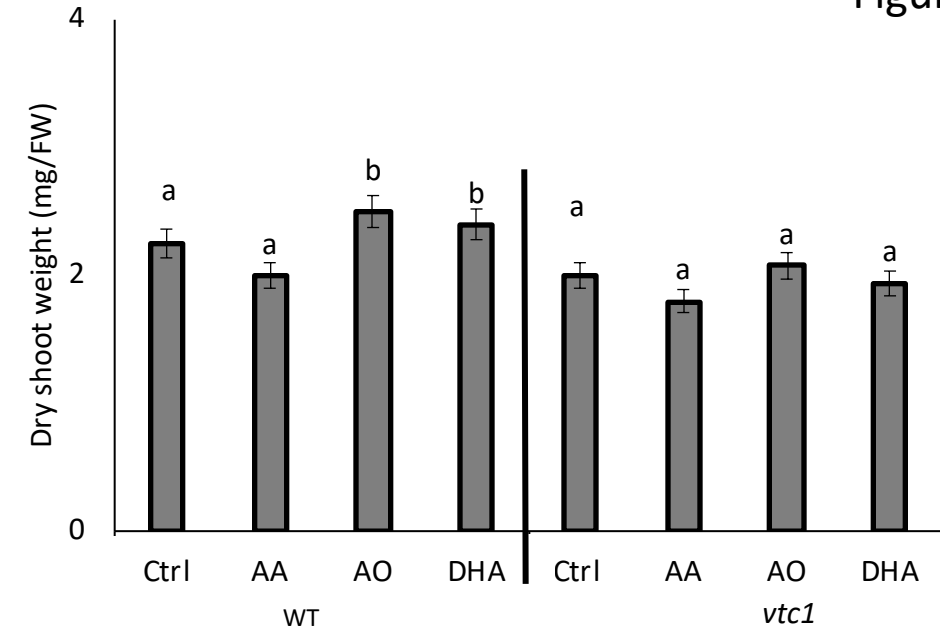
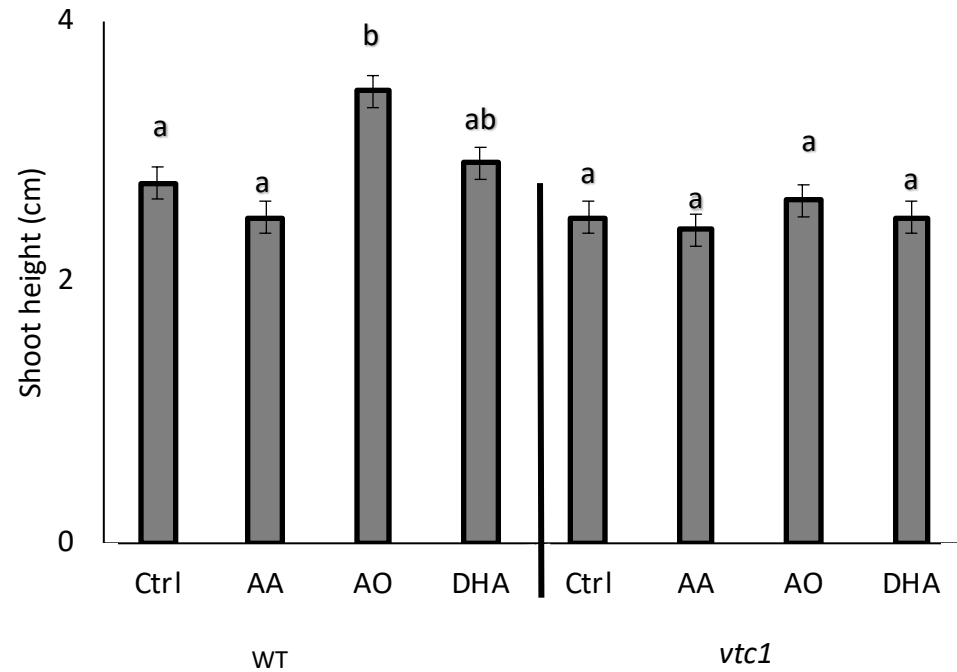
a**b****Figure 4****c**

Fig. S3. Effect of exogenous AA, AO or DHA on germinating seedling growth of AA-deficient *vtc1* mutant and WT. The effect on germinating seedling growth is observed at 5 dag on (a) no. of PER (b) dry shoot weight (c) shoot height. Seeds were set for germination and at 3 dag seedlings were treated with chemicals and left in the incubator for growth. At 5 dag measurements were taken. The data show the mean and standard error bars of 10 seedlings per treatment. Different letters indicate statistically significant differences. Data were analyzed by one-way ANOVA followed by Tukey post-hoc test to compare differences among the treatment groups. Data represent one of the two independent experiments with similar results.

Figure 5

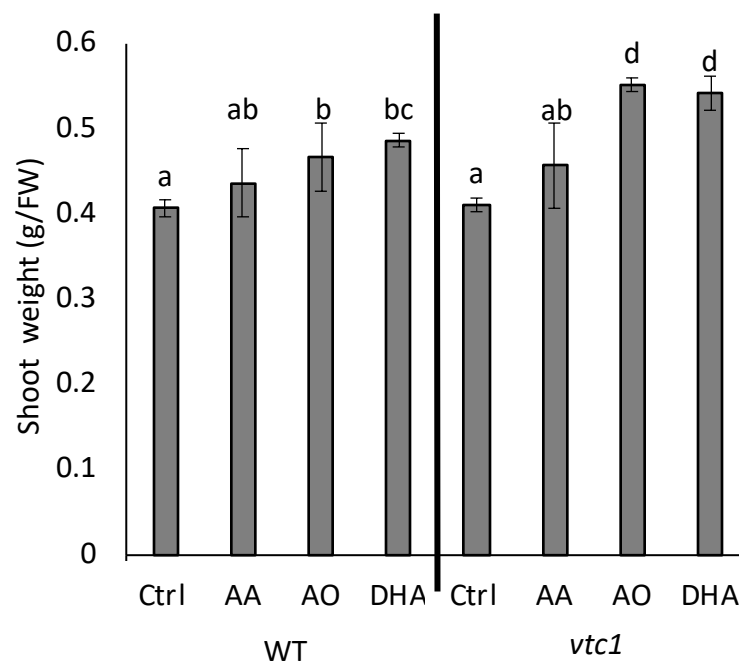
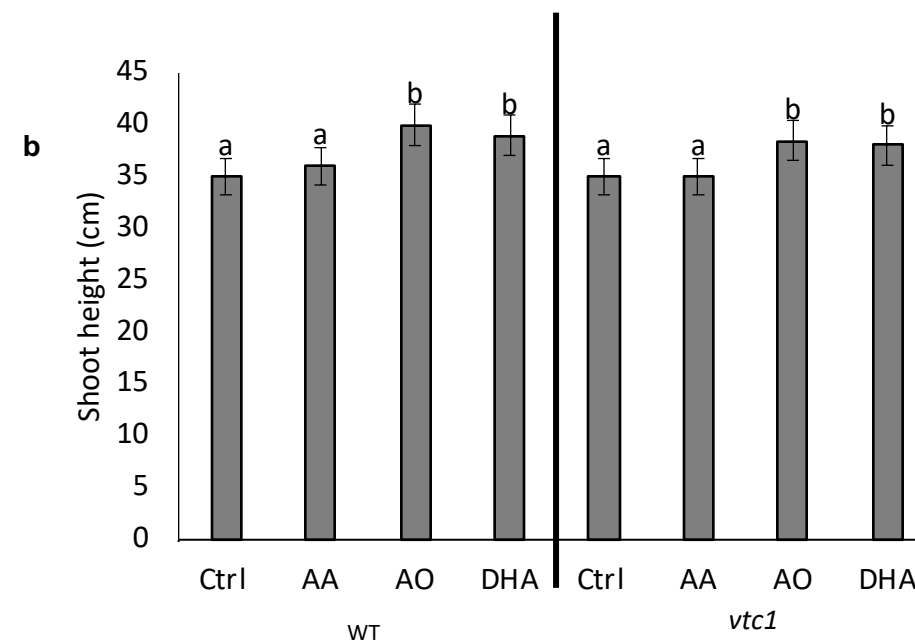
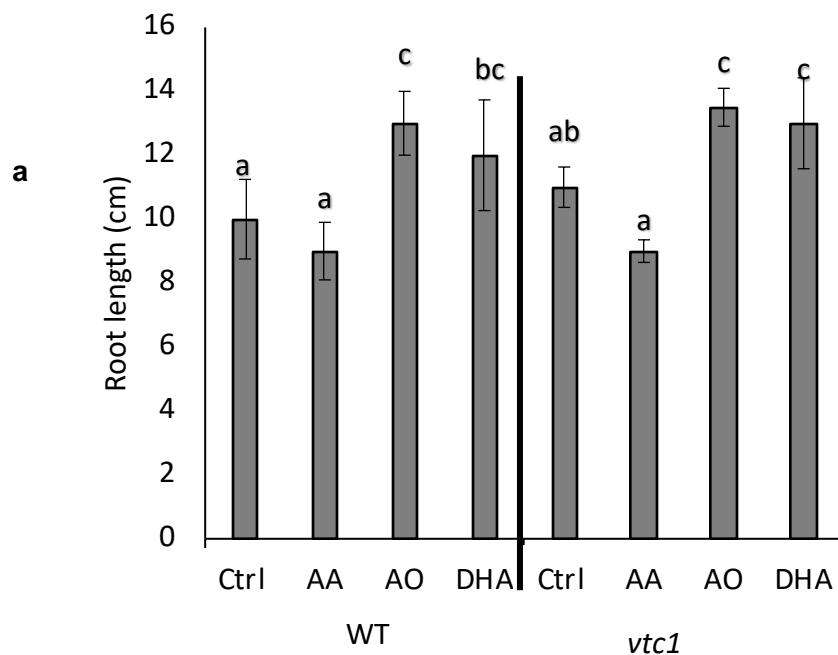


Fig. S4. Effect of exogenous AA, AO or DHA on early vegetative growth of AA-deficient *vtc1* mutant and WT. The effect on early vegetative growth is observed at 15 day on (a) root length (b) shoot height (c) shoot weight. Seeds were set for germination and at 5 day seedlings were transferred to SAP-substrate and further grown under controlled environmental conditions (26°C:24°C, day:night temperature, 70% relative humidity, 12 h:12 h, light:dark cycle). Plants were sprayed at 14 day with respective concentration of chemicals and evaluated at 26 day for their growth phenotype. The data show the mean and standard error bars of 10 seedlings per treatment. Different letters indicate statistically significant differences. Data were analyzed by one-way ANOVA followed by Tukey post-hoc test to compare differences among the treatment groups. Data represent one of the two independent experiments with similar results.