

B1 = CADMIUM, COPPER AND ZINC INDUCE THIOL-PEPTIDE PRODUCTION BUT DO NOT AFFECT GENE EXPRESSION INVOLVED IN THEIR SYNTHESIS IN *ARABIDOPSIS THALIANA* SEEDLINGS

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The aim of this work was to investigate changes in the levels of thiol-peptide compounds related to their genetic regulation in *Arabidopsis thaliana* L. seedlings exposed to Cd, Cu and Zn. This species can be important for a better understanding of the mechanisms involved in metal homeostasis, detoxification and tolerance in plants. Seedlings of *A. thaliana* were exposed to the above metals at concentrations of 10, 5 and 150 μ M, respectively. After 12 days of metal treatments, given separately or in triple combination (Cd/Cu/Zn), the shoots and roots were analyzed by HPLC for glutathione and phytochelatin levels, and by *q*-PCR for expression of the genes involved in their metabolism. Thiol-peptide compound production was induced by all metals, whether alone or combined. By contrast, the expression of genes involved in their synthesis (*AtGSH1*, *AtGSH2*, *AtPCS1* and *AtPCS2*) was at no point affected by the metals, thus suggesting a post-transcriptional control of such synthesis. Our results could provide a bridge between *A. thaliana* responses aimed at metal detoxification and traits of fast-growing, high biomass, plants to be employed as phytoremediation tools.