Short Transcript-derived Fragments from the Metal Hyperaccumulator Model Species Arabidopsis halleri

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Here we report 128 transcript-derived sequence fragments (TDFs) identified in a cDNA-AFLP approach aimed at identifying metal-regulated transcripts in roots. In addition we show that in roots of A. halleri, transcript levels of AhPDR11, encoding an ATP-bindingcassette (ABC) transport protein, are slightly induced in response to metal exposure.

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Phytoremediation of metal contaminated soils requires high-biomass plants exhibiting tolerance to and accumulation of metal contaminants. However, very little is known about the genes controlling these traits. In order to better understand this, Arabidopsis halleri ssp. halleri (L.) O'Kane and Al-Shehbaz, a naturally selected zinc and cadmium tolerant plant species capable of hyperaccumulating both metals, is a suitable model plant. To date, the scarcity of sequence information from A. halleri is still limiting its use as a model organism.