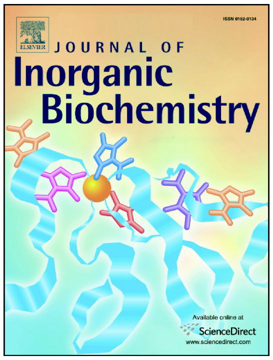

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A proteomic approach to the mechanisms underlying activation of aluminium resistance in roots of *Urochloa decumbens*

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ABSTRACT

The mechanisms of extreme Al-resistance in *Urochloa decumbens* are not established. Full resistance expression requires a lag time of 72-96 h and is preceded by a sensitive phase (24-48h) with Al-induced root growth inhibition. The aim here was to identify key processes of the activation phase of Al-resistance analysing both root exudates and comparative root proteome. Samples were taken after 0, 24 and 96 h exposure to 0 or 200 µM Al. Al-induced stimulation of citrate and oxalate efflux was limited to the sensitive phase. Only 11 proteins revealed Al-induced abundance differences; six were identified. After 24 h, phenylalanine ammonium lyase (PAL), methionine synthase (MS), and deoxymugineic acid synthase (DMAS) decreased, while acid phosphatase (APase) abundance increased. Coincident with growth recovering, PAL and MS, but