

SSH gene expression profile of *Eisenia andrei* exposed in situ to a naturally contaminated soil from an abandoned uranium mine

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The effects of the exposure of earthworms (*Eisenia andrei*) to contaminated soil from an abandoned uranium mine, were assessed through gene expression profile evaluation by Suppression Subtractive Hybridization (SSH). Organisms were exposed *in situ* for 56 days, in containers placed both in a contaminated and in a non contaminated site (reference). Organisms were sampled after 14 and 56 days of exposure. Results showed that the main physiological functions affected by the exposure to metals and radionuclides were: metabolism, oxireductase activity, redox homeostasis and response to chemical stimulus and stress. The relative expression of *NADH dehydrogenase subunit 1* and elongation factor 1 alpha was also affected, since the genes encoding these enzymes were significantly up and down-regulated, after 14 and 56 days of exposure, respectively. Also, an EST with homology for SET oncogene was found to be up-regulated. To the best of our knowledge, this is the first time that this gene was identified in earthworms and thus, further studies are required, to clarify its involvement in the toxicity of metals and radionuclides. Considering the results herein presented, gene ex-

pression profiling proved to be a very useful tool to detect earthworms underlying responses to metals and radionuclides exposure, pointing out for the detection and development of potential biomarkers.

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