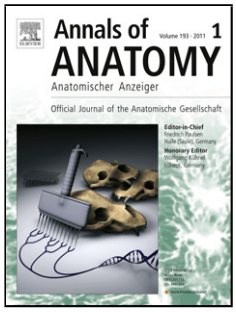


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# Neuromast hair cells retain the capacity of regeneration during heavy metal exposure

**Montalbano G.[1*], Capillo G.[2*], Laurà R.[1], Abbate F. [1], Levanti M. [1], Guerrera M.C. [1#],Ciriaco E. [1], Germanà A.[1]**

***[1] Department of Veterinary Sciences, University of Messina; Zebrafish Neuromorphology Lab.***

***[2] Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, University of Messina.***

#Corresponding author: Maria Cristina Guerrera, mguerrera@unime.it, Department of Veterinary Sciences, University of Messina, Polo Universitario Annunziata 98168 Messina, Italy

*These authors contributed equally to this work

## Abstract

The neuromast is the morphological unit of the lateral line of fishes and is composed of a cluster of central sensory cells (hair cells) surrounded by support and mantle cells. Heavy metals exposure leads to disruption of hair cells within the neuromast. It is well known that the zebrafish has the ability to regenerate the hair cells after damage caused by toxicants. The process of regeneration depends on proliferation, differentiation and cellular migration of sensory and non-sensory progenitor cells. Therefore, our study was made in order to identify which cellular types are involved in the complex process of regeneration during heavy metals exposure. For this purpose, adult zebrafish were exposed to various heavy metals (Arsenic, cadmium and zinc) for 72 hours. After acute (24h) exposure, immunohistochemical localization of S100 (a specific marker for hair cells) in the neuromasts highlighted the hair cells loss. The immunoreaction for Sox2 (a specific