

# Macrophage Recruitment Contributes to Regeneration of Mechanosensory Hair Cells in the Zebrafish Lateral Line

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© 2016 Wiley Periodicals, Inc. In vertebrates, damage to mechanosensory hair cells elicits an inflammatory response, including rapid recruitment of macrophages and neutrophils. While hair cells in amniotes usually become permanently lost, they readily regenerate in lower vertebrates such as fish. Damage to hair cells of the fish lateral line is followed by inflammation and rapid regeneration; however the role of immune cells in this process remains unknown. Here, we show that recruited macrophages are required for normal regeneration of lateral line hair cells after copper damage. We found that genetic ablation or local ablation using clodronate liposomes of macrophages recruited to the site of injury, significantly delays hair cell regeneration. Neutrophils, on the other hand, are not needed for this process. We anticipate our results to be a starting point for a more detailed description of extrinsic signals important for regeneration of mechanosensory cells in vertebrates. *J. Cell.*