

Abstract

Limb regeneration fascinates innumerable scientists for decades. Urodele amphibians can regenerate their limbs perfectly. This ability is preserved for a whole lifetime. However, they are not the only ones who regenerate their limbs. Second species are anuran amphibians, but their ability to promote limb regeneration take place only throughout a larval stage. Both groups belong to amphibians. Limbs are regenerated by the process called epimorphosis. The primary process is formation of blastema, mass of heterogeneous dedifferentiated cells, which are unipotent with the capacity to redifferentiate into only one cell type. Essential factor is the regulation of limb regeneration by numerous molecular mechanisms in order to achieve the perfect limb shape, without unwanted tumors. Mechanisms allowing limb regeneration in lower vertebrates would be applied via regenerative medicine in higher vertebrates in the future.

Keywords: regeneration, limb, epimorphosis, dedifferentiation, vertebrates