

Does Newt Plasma Induce Dedifferentiation in Human Cells?

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Newts possess the ability to regenerate limbs after amputation—an ability absent in mammals. Recent studies suggest that newt blood may contain regenerative factors. We hypothesized that such factors might induce dedifferentiation.

We used DFAT (dedifferentiated fat) cells with multipotent capabilities, derived from human orbital adipocytes and differentiated into mature adipocytes. The culture medium was replaced with 1 ml of DMEM, to which 0, 1, 10, or 100 μ l of newt plasma was added. Cells were observed after 48 hours, and trypan blue staining was used to assess cell viability. After 48 hours, cells treated with 10 and 100 μ l of newt plasma displayed a spindle-shaped morphology. However, it remains unclear whether these cells were dedifferentiated DFAT cells or a different population. Future work will determine whether the observed reduction in cell number reflects dedifferentiation, cytotoxicity, or decreased cell adhesion due to the chelating agent or newt plasma.