

Newt regeneration signal

N.V. Chayanov^{one}, P.D. Bizyaev^{one}, O.V. Burlakova^{one}, V.A. Golichenkov^{one}, M.Yu. Gotovsky²,
K.N. Mkhitarian²

(^{one}Department of Embryology, Biological Faculty, Moscow State University, ²Center "IMEDIS", Moscow, Russia)

Introduction

Tailed amphibians (newts, amblystomas) are the only vertebrates in which complete true regeneration of limbs occurs.

Materials and methods

The idea was to "record" the control signal (CS) corresponding to different stages of restoration of the lost limb: immediately after the injury, the next day (the beginning of the epithelialization of the stump), after 2 days - the completion of the epithelialization of the stump, then 1 or 2 times per week to fix the various stages of osteoporosis (the remainder of the bone is absorbed) and, in fact, regeneration.

To carry out the "recording" of signals, the following was used: computerized apparatus for electropunctural diagnostics, drug testing, adaptive bioresonance therapy and electro-, magnetic and light therapy for BAT and BAZ "IMEDIS-EXPERT" special laser probe designed for transferring the US and supplied

to this unit.

Sexually mature individuals were used to obtain the manager the hind limb was amputated - left or right. In total, 10 individuals were used in the experiment, half of which were amputated with the left and half - right hind paw. The control signal was "recorded" from each (left and right) amputated hind limb using a point magnetic inductor and a laser probe. Also, with the help of a laser probe, the control signal from the head and ridge of the newt was "recorded" presumably arising in the process of regeneration.

The duration of the experiment at the stage of obtaining the primary material was about 3-4 months (for different individuals from which the control signal was "recorded", depending on the rate of recovery of the lost limb by them).

The "recording" was carried out in the mode of drug testing along all meridians for 30 seconds per 2 sugar globules.

Description of the received preparations

As a result, the following averaged preparations were obtained (their names reflect the stages of regeneration):

1. Intact newt

The preparation averaged over 10 individuals, obtained by removing the laser probe from the head (between the eyes) and along the animal's spine.

2. Trauma

The specimen averaged over 10 specimens obtained by removal with a laser probe and

	induction immediately after the injury.	probe withboth stump
3. Trauma E	The preparation averaged over 10 individuals, obtained by removing the laser probe from the head (between the eyes) and along the animal's spine.	
4. Epithelization 1	The drug averaged over 10 individuals, received taking off laser probe and an induction probe on both stumps the day after the injury. Averaging the original 40 preparations.	
5. Epithelization 1E	The preparation averaged over 10 individuals, obtained by removing the laser probe from the head (between the eyes) and along the spine of the animal the next day after the injury. Averaging 10 starting preparations.	
6. Epithelization 2	The specimen averaged over 10 specimens obtained by removal with a laser probe and induction probe from both stumps on the 2nd day after injury. Averaging 40 initial preparations.	
7. Epithelialization 2E	The preparation averaged over 10 individuals, obtained by removing the laser probe from the head (between the eyes) and along the spine of the animal on the 2nd day after the injury. Averaging 10 starting preparations.	
8. Epithelization 3	The specimen averaged over 10 specimens obtained by removal with a laser probe and induction probe from both stumps on the 3rd day after injury. Averaging 40 initial preparations.	
9. Epithelization 3E	The preparation averaged over 10 individuals, obtained by removing the laser probe from the head (between the eyes) and along the spine of the animal on the 3rd day after the injury. Averaging 10 starting preparations.	
10 Osteoporosis 1, accompanied by edema and inflammation	The drug averaged over 10 individuals, obtained by removal with a laser probe and induction probe withboth stump. Averaging 14 starting preparations.	
11. Osteoporosis 1E, accompanied by edema and inflammation	Averaged over 10 individuals a drug, laser scanned off the head (between the eyes) and along the spine of the animals.	

Averaging 5 initial preparations.

12. Osteoporosis 2, no edema or inflammation

The specimen averaged over 10 specimens obtained by removal with a laser probe and induction probe with both stump. Averaging 32 initial preparations.

13. Osteoporosis 2E, without edema and inflammation

Averaged over 10 specimens a drug, obtained by pickup with a laser probe off the head (between the eyes) and along the spine of the animals. Averaging 17 initial preparations.

14. Blastema

The specimen averaged over 10 specimens obtained by removal with a laser probe and an induction probe from both stumps. Averaging 43 initial preparations.

15. Blastema E

The preparation averaged over 10 individuals, obtained by removing the laser probe from the head (between the eyes) and along the spine of the animals.

16. Blastema cone

The specimen averaged over 10 specimens obtained by removal with a laser probe and an induction probe from both stumps. Averaging 30 initial preparations.

17. Blastema cone E Preparation averaged over 10 specimens,

obtained by removing a laser probe from the head (between the eyes) and along the spine of animals.

18. Blastema late cone Specimen averaged over 10 specimens,

obtained by removal with a laser probe and an induction probe from both stumps. Averaging 12 initial preparations.

19. Blastema late cone E Preparation averaged over 10 specimens,

obtained by removing a laser probe from the head (between the eyes) and along the spine of animals.

20. Spatula

The specimen averaged over 10 specimens obtained by removal with a laser probe and an induction probe from both stumps. Averaging of 16 initial preparations.

21. Spatula E

The preparation averaged over 10 individuals, obtained by removing the laser probe from the head (between the eyes) and along the spine of the animals.

22. Finger buds Averaged over 10 specimens preparation obtained

removal with a laser probe and an induction probe from both stumps. Averaging 30 initial preparations.

23. Finger buds E Averaged over 10 specimens, obtained

by removing the laser probe from the head (between the eyes) and along the spine of the animals.

Presumptive indications for use

The resulting group of drugs can presumably be used:

1. As accelerators of regeneration processes in case of any acute or

chronic conditions of the patient, in which it is advisable to strengthen and / or accelerate the processes of regeneration of certain tissues, organs and systems: injuries, heart attacks, strokes, cirrhosis, degenerative processes in organs and tissues, premature aging, stress.

2. As oncoprotectors, at all stages of development of malignant or benign tumors (only in the required potency, - compensating CMH and / or a group of tumor markers tested in the patient).

3. As teratoprotectors, in case of damage to the patient's genome (radiation, poisoning with substances damaging DNA, persistent viral infections, etc.), as well as in hereditary degenerative diseases.

4. As gerontoprotectors, including in persons of relatively young age, with a "weak constitution", i.e. persons who develop the process of appearance and chronicity of diseases typical for them faster than usual.

Application procedure

A drug from the obtained group of drugs can be used independently or be part of manufactured bioresonance drugs in accordance with the general provisions on working with electronic copies of drugs within the framework of ART and BRT methods.

Contraindications for use

Failure for a drug from the resulting group ART conditions for constitutional consistency:

KMX ↓ + Pot (Triton regeneration drug tested) ↑

at any potency . Failure to meet this condition shows that the implementation of the program given by this drug will require the body to pay more for adaptation than the gain from its implementation, and, therefore, will lead to a deterioration rather than an improvement in the patient's condition.

Literature

1. Bryant SV, Endo T., Gardiner DM Vertebrate limb regeneration and the origin of limb stem cells // Int. J. Dev. Biol. - 2002. - V. 46. - P. 887-896.

2. Oster GF, Shubin N., Murray JD, Alberch P. Evolution and morphogenic rules: the shape of vertebrate limb in ontogeny and phylogeny // Evolution. - 1988. - V.42. No. 5. - P. 862-884.

3. Endo T., Bryant SV, Gardiner DM A stepwise model system for limb regeneration // J. Dev. Biol. - 2004. - V. 270. - P. 135-145.

4. Rivanenkova M.L., Sokolov A.Yu., Akhmatova E.N., Burlakova O.V. , Golichenkov V.S. Atypicality of Urodela limb regenerates: deviation or regularity? // Vestn. Moscow University., 2006. Ser. 16. Biology. - No. 3. - P. 29-39.

5. Nikiforova A.I., Sokolov A.Yu., Burlakova O.V., Golichenkov V.A. Violation of the formation of distal parts of the newt limb during regenerative morphogenesis // Symposium with international participation "Cellular, molecular and evolutionary aspects of morphogenesis" (Moscow, 911 October 2007). - M.: Partnership of scientific publications KMK, 2007. - pp. 23-24.

N.V. Chayanov, P.D. Bizyaev, O. V. Burlakova, V.A. Golichenkov, M. Yu. Gotovsky, K.N. Mkhitarian Newt
regeneration signal

"- M .:" IMEDIS ", 2008, vol. 2 -

Pp. 74-79