

NOVEJŠE RAZISKAVE NA PODROČJU HOMEOPATIJE

SFD Homeopatska sekcija

29 marec 2023

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FUNDAMENTALNE RAZISKAVE

- To področje raziskav želi prikazati farmakološko ali fizično aktivnost močno razredčenih snovi (kot so homeopatska zdravila) in razložiti njihov mehanizem delovanja.
- Uporablja biologijo in fiziko za neposredno reševanje vprašanja visokih razredčitev, ki so osrednjega pomena za raziskave.
- Ovrednotenje signifikantnosti znanstvenih rezultatov v izvedenih raziskavah.

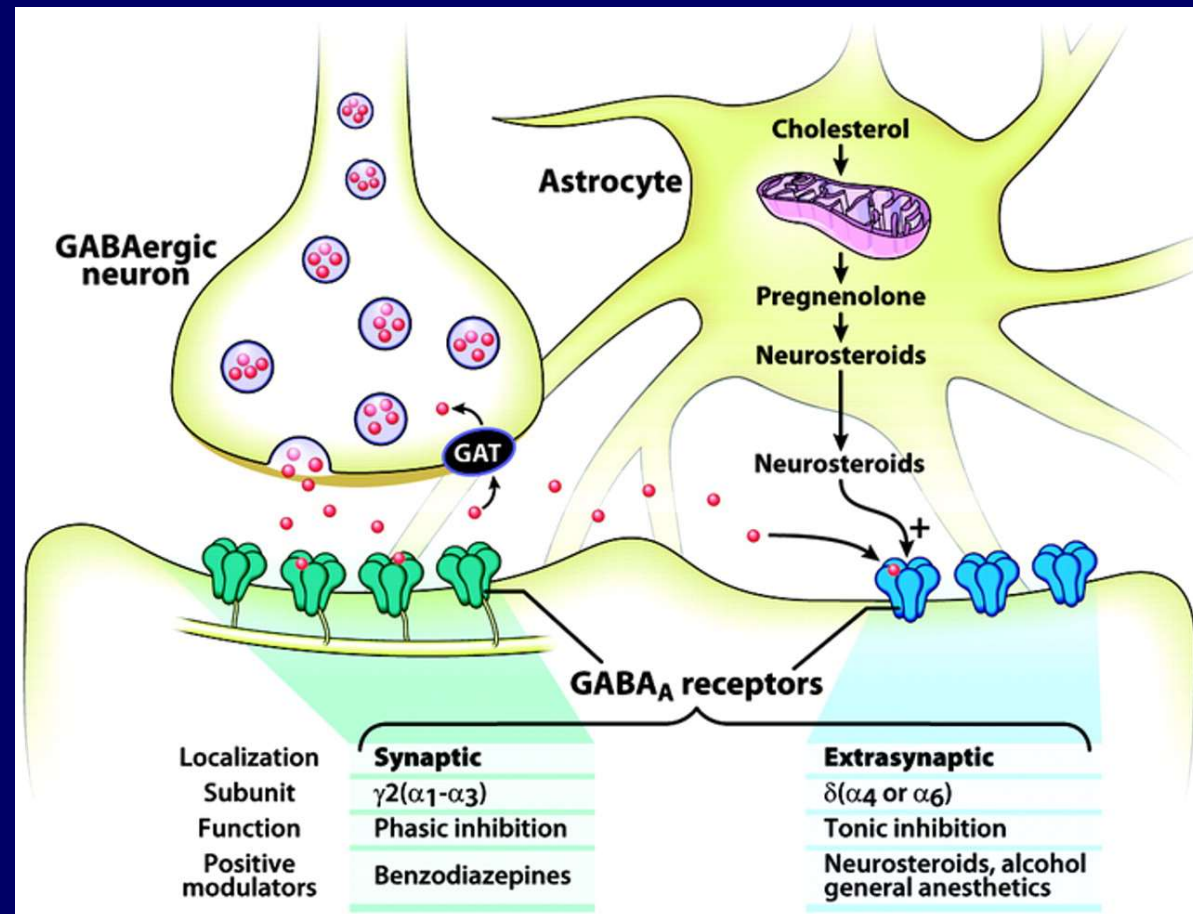
FUNDAMENTALNE RAZISKAVE

- Trije modeli:

- Biološko delovanje homeopatije na:

- **CELIČNEM MODELU NEVRONSKE CELICE**
 - **RASTLINSKEM MODELU**
 - **ŽIVALSKEM MODELU**

• Biološko delovanje homeopatije na: **CELIČNEM MODELU NEVRONSKE CELICE**



GELSEMIUM SEMPERVIRENS – rumeni jasmin

- homeopatska raztopina Gelsemium sempervirens (5C) spodbuja proizvodnjo alopregnanolona, hormona (GABAergični modulator), ki zmanjšuje tesnobo in bolečino pacienta.



GELSEMIUM SEMPERVIRENS

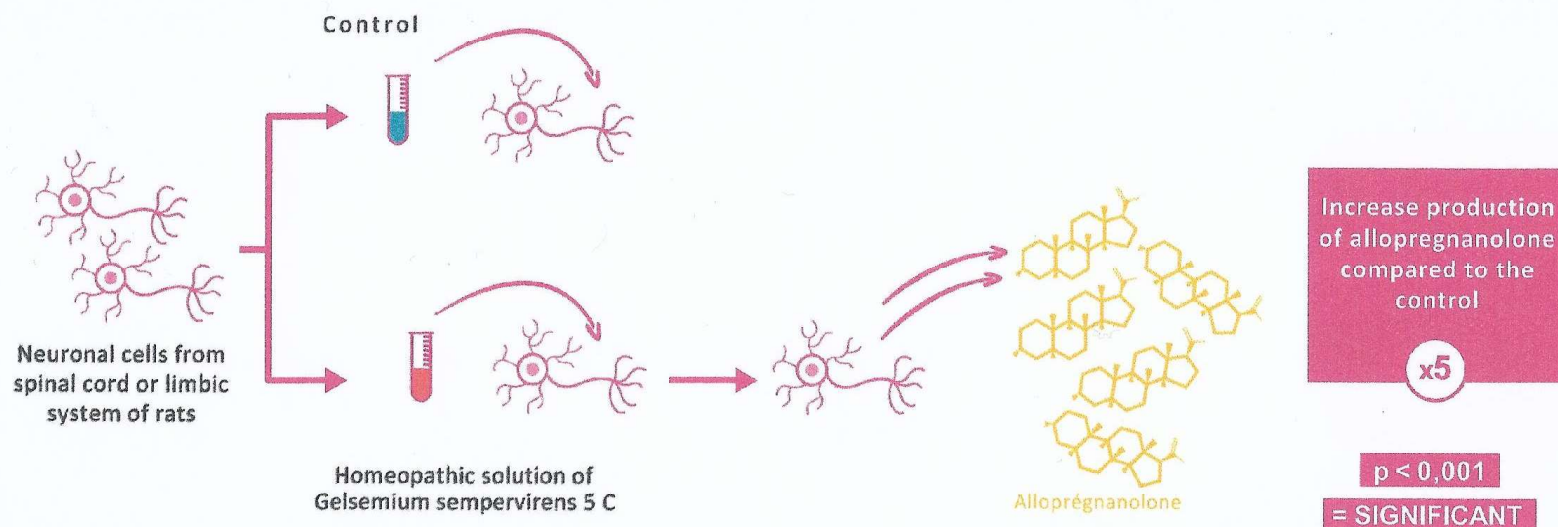
● Protokol

- Živčne celice v prisotnosti Gelsemium 5 CH so sintetizirale 5 x več Alopregnonolona.
- Gelsemium ima delovanje na celičnem nivoju.
- Farmakološko delovanje Gelsemium
- Alopregnonolon je potreben za stimulacijo GABA nevronov. Model za delovanje Gelsemium kot anksiolitik in analgetik.
- Rezultati opravljeni INSERM Strasbourg (prof Mensah-Nyagan)

The biological effects of homeopathic solutions on cell models

***In vitro* laboratory studies show that homeopathic solutions stimulate the production of hormones by neuronal cells²⁶:**

- For example, a homeopathic solution of *Gelsemium sempervirens* (5C) stimulates the production of Allopregnanolone, a hormone (GABAergic modulator) that reduces anxiety and pain, by neuronal cells^{26*}



*** : $p < 0,001$

** : $p < 0,01$

Sources:

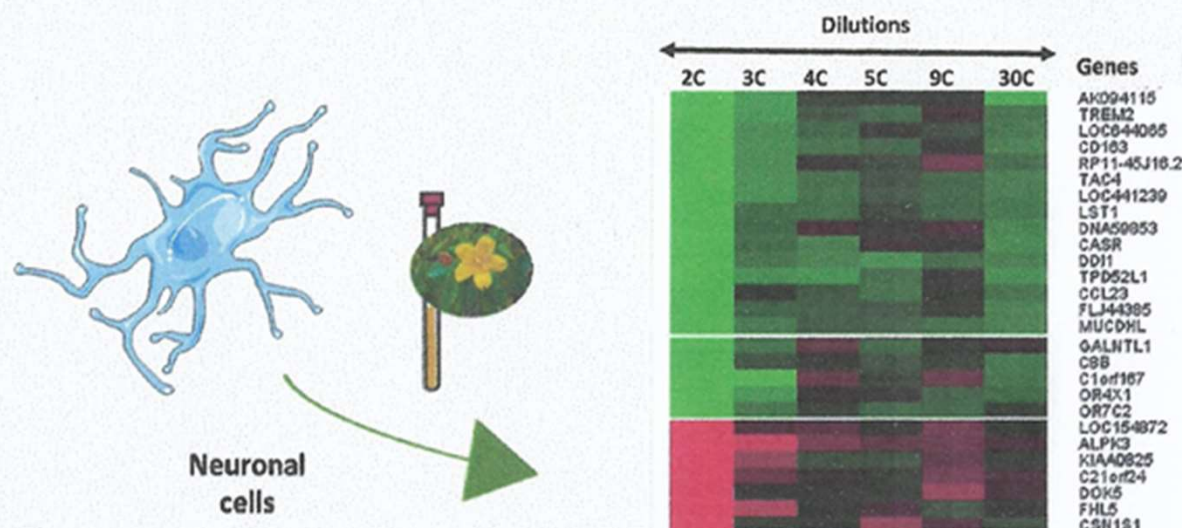
26. Venard C, Boujedaini N, Mensah-Nyagan AG, Patte-Mensah C. Comparative Analysis of Gelsemine and *Gelsemium sempervirens* Activity on Neurosteroid Allopregnanolone Formation in the Spinal Cord and Limbic System. *Evid Based Complement Alternat Med*. 2011;2011:407617.

The biological effects of homeopathic solutions on cell models

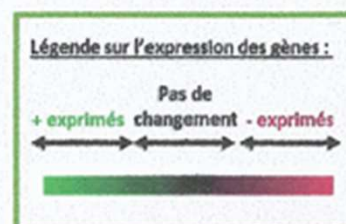
In vitro laboratory studies show that homeopathic solutions modulate the expression of genes in cells^{21,23,27}

Homeopathic solutions can cause a modification of the expression profile of cellular genes:

- For example, *Gelsemium sempervirens* (2C) causes the repression of genes in neuronal cells^{23,27}



Example of a gene class (cluster) whose expression profiles can be modified in the presence of homeopathic solutions of *Gelsemium sempervirens* (Significant for 2C ($p < 0.005$) and trend for other dilution scales)



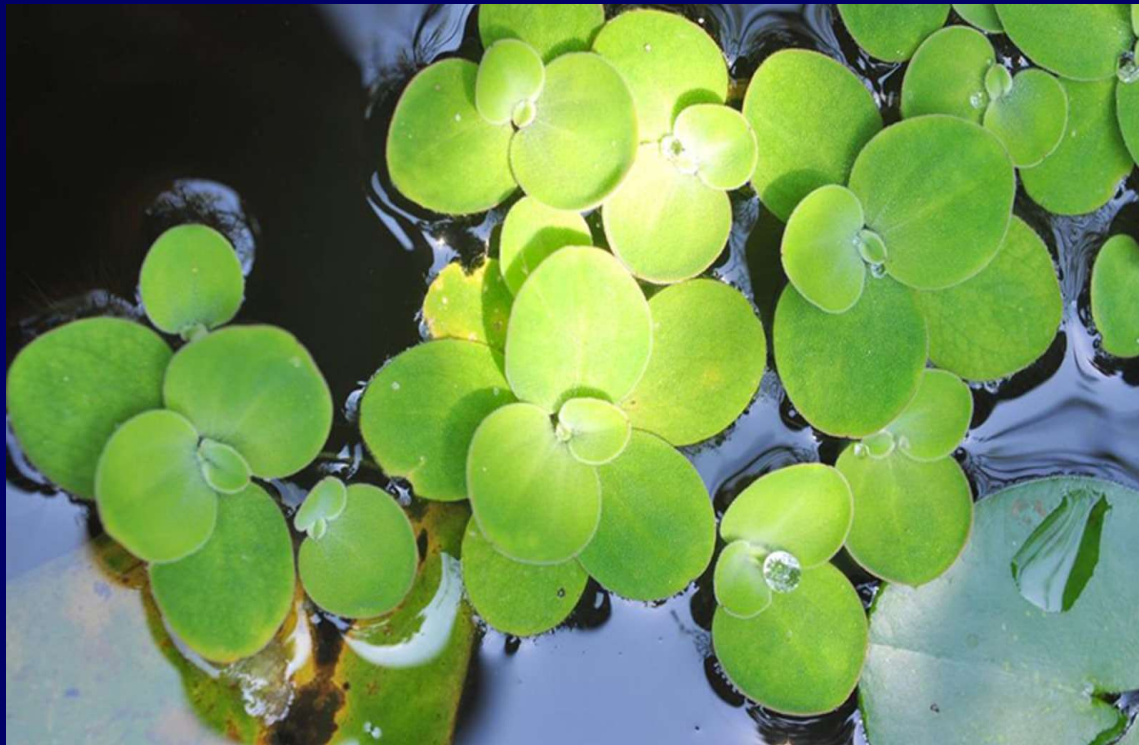
Sources:

- Olloso D, Marzotto M, Moratti E, Brizzi M, Bellavite P. Effects of *Gelsemium sempervirens* L. on pathway-focused gene expression profiling in neuronal cells. *J Ethnopharmacol*. 2014;153(2):535-539.
- Marzotto M, Olloso D, Brizzi M, Tononi P, Cristoforetti M, Bellavite P. Extreme sensitivity of gene expression in human SH-SY5Y neurocytes to ultra-low doses of *Gelsemium sempervirens*. *BMC Complement Altern Med*. 2014;14:104.

Other references:

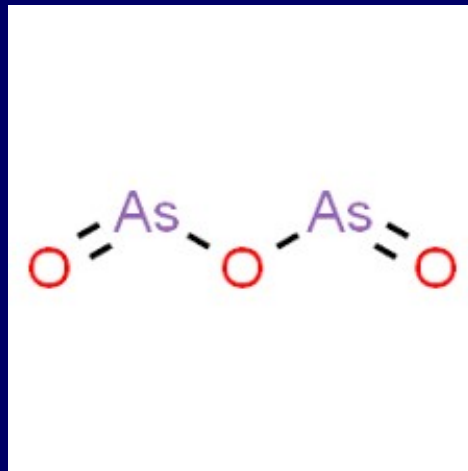
- de Oliveira CC, de Oliveira SM, Goes VM, Probst CM, Krieger MA, Buchi Dde F. Gene expression profiling of macrophages following mice treatment with an immunomodulator medication. *J Cell Biochem*. 2006;104(4):1364-1377.

• Biološko delovanje homeopatije na:
RASTLINSKEM MODELU vodne leče



ARSENICUM ALBUM – arsenijev oksid

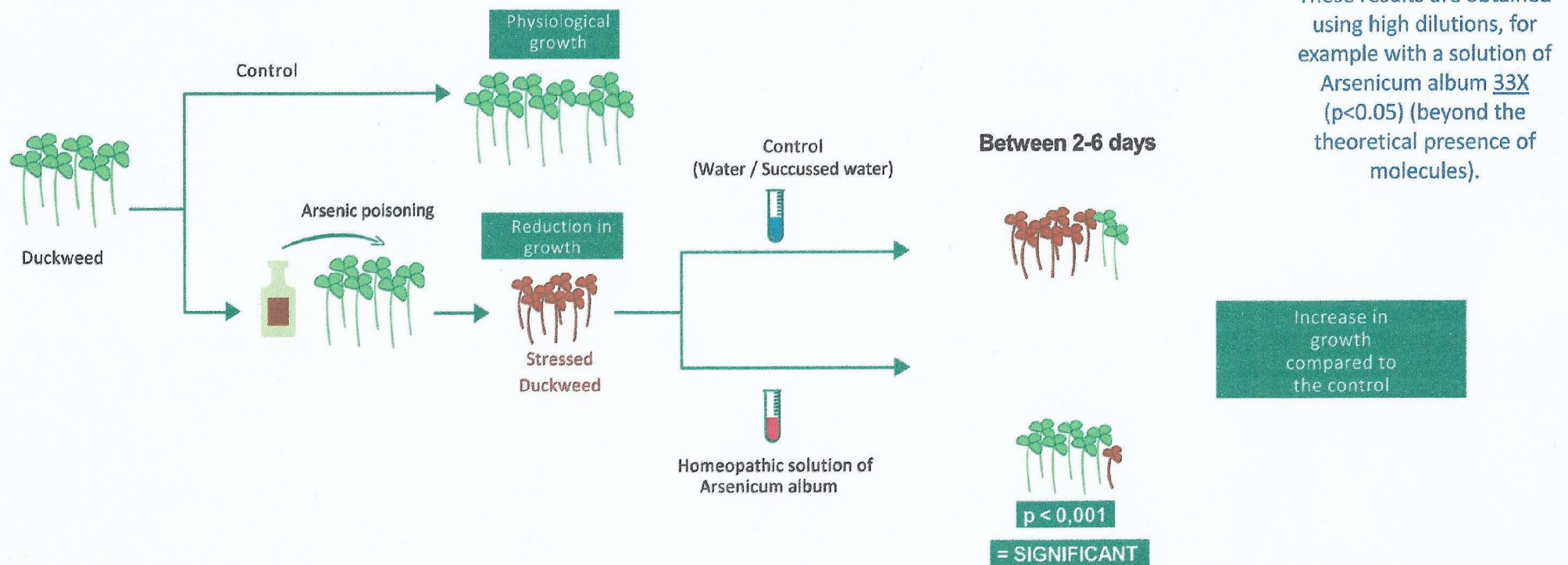
- homeopatska raztopina Arsenicum album 33 X arsenicum ščiti vodno lečo pred učinki zastrupitve z arzenom iz okolja, tako da obnavlja njeno rast



Biological effects of homeopathic solutions

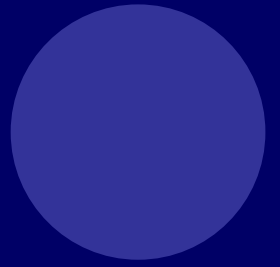
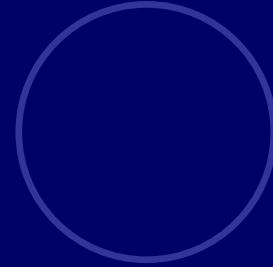
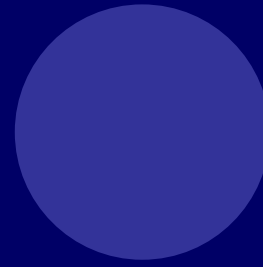
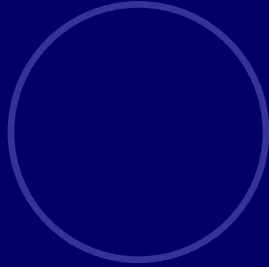
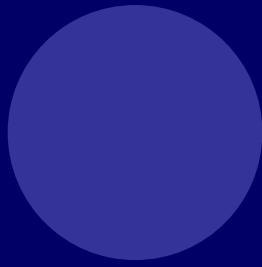
In-vitro laboratory studies show that homeopathic solutions have **biological effects on previously stressed plants**¹⁶

- A homeopathic solution of Arsenicum album protects duckweed from the effect of arsenic poisoning by restoring its growth.



Sources:

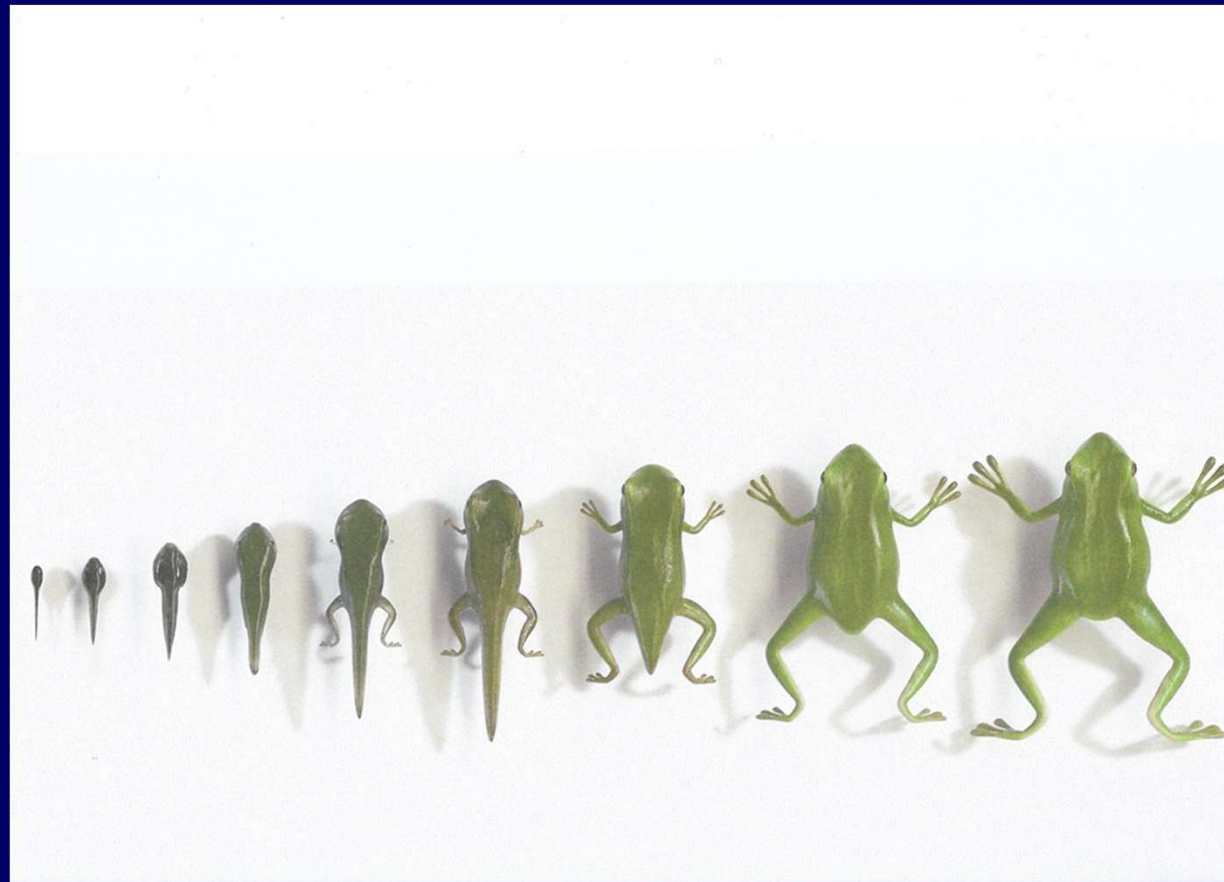
16. Jäger T, Scherr C, Simon M, et al. Effects of homeopathic arsenicum album, nosode, and gibberellic acid preparations on the growth rate of arsenic-impaired duckweed (*Lemna gibba* L.). *ScientificWorldJournal*. 2010 Nov 4;10:2112-29



- **Rezultati:**
- Študija izvedena na vodni leči, ki so jo kontaminirali z arsenom iz okolja.
- Preživetje in obova rasti je bila očitna le pri tistih rastlinah, ki so bile tretirane z homeopatsko raztopino Arsenicum albuma.

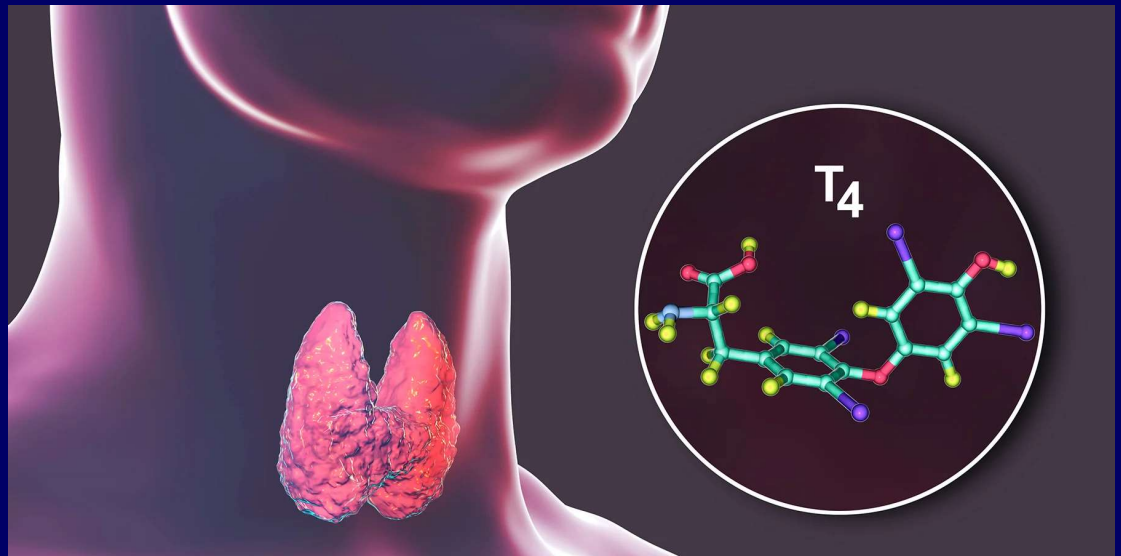
Biološko delovanje homeopatije na

ŽIVALSEM MODELU ŽABE – žabjih paglavcev



THYROXINUM – ščitnični hormon

- Homeopatska raztopina **THYROXINUM 30** X upočasni rast žabjih paglavcev.
- Diluiran ščitnični hormon lahko spreminja rast žabjih paglavcev.

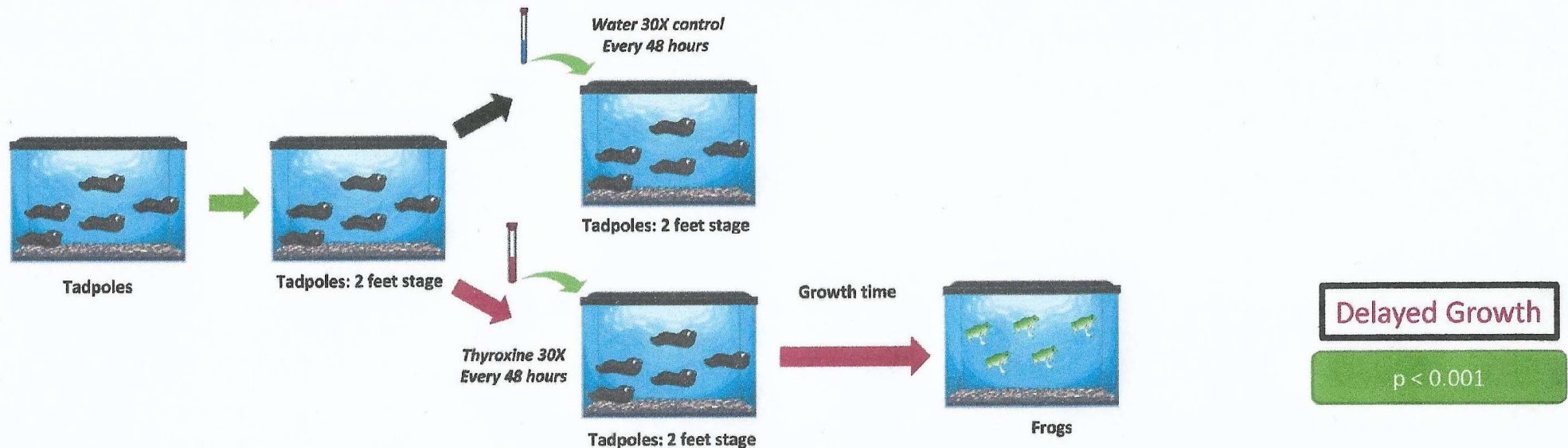


The biological effects of homeopathic solutions on animal models

In vivo laboratory studies show that homeopathic solutions influence the growth process of frogs³⁰:

- Thus, a homeopathic solution of Thyroxine* slows down the development of tadpoles into frogs.

Results of 3 experiments carried out in independent laboratories



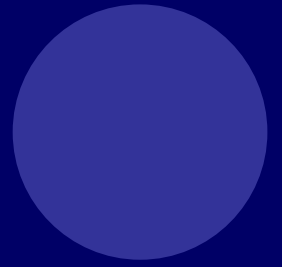
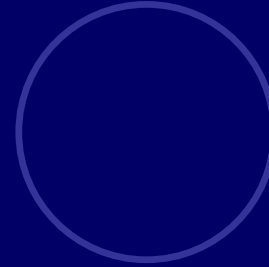
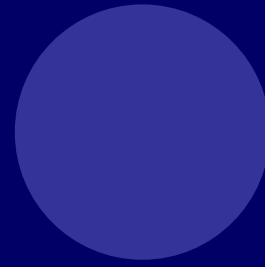
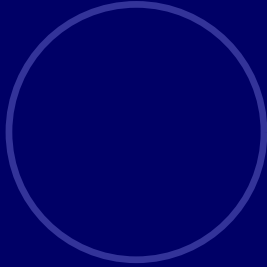
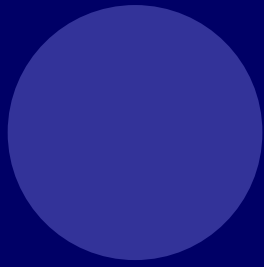
A total of 1,941 tadpoles were treated with the homeopathic solution of Thyroxine 30X

Sources:

0. Endler PC, Scherer-Pongratz W, Harrer B, Lingg G, Lothaller H. Amphibians and ultra high diluted thyroxine--further experiments and re-analysis of data. *Homeopathy*. 2015;104(4):250-256. doi:10.1016/j.homp.2015.10.001

Other references:

Endler, P.C. & Pongratz, W. & Wijk, Roeland & Kastberger, Gerald & Haldvogel, M. (1991). Effects of Highly Diluted Succussed Thyroxine on Metamorphosis of Highland Frogs. *Berlin J on Research in Homeopathy*. 1. 151-160

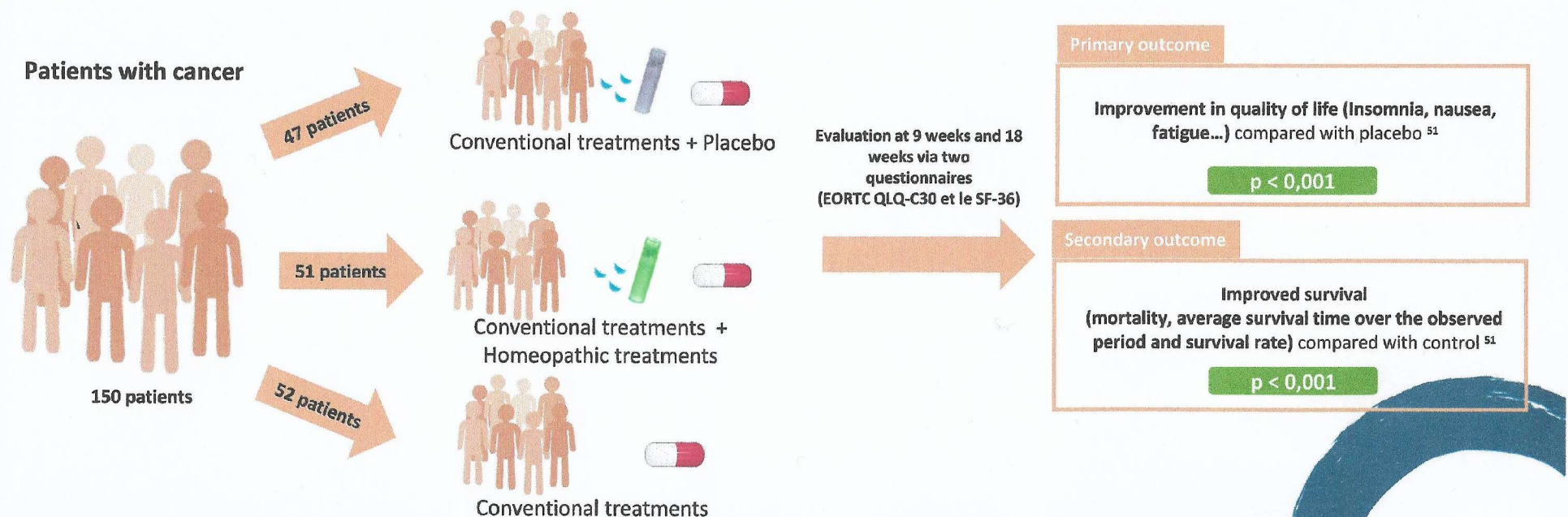


- Rezultati:
- Ščitnični hormon **Thyroxine 30 X**
je upočasnil rast žabjih paglavcev v primerjavi z paglavci, ki niso bili izpostavljeni homeopatski raztopini Thyroxinum.
- Diluirani ščitnični hormoni lahko spreminjajo rast.

Homeopathic treatments used as adjunctive therapy

Frass *et al*, 2020

For example, a RCT showed that **an individualized homeopathic treatment used as adjunctive treatment for patients with cancer**, resulted in **improved well-being and quality of life** ⁵²



Sources:

51. Frass M, Lechleitner P, Gründling C, *et al*. Homeopathic Treatment as an 'Add on' Therapy May Improve Quality of Life and Prolong Survival in Patients with Non-Small Cell Lung Cancer: A Prospective, Randomized, Placebo-Controlled, Double-Blind, Three-Arm, Multicenter Study. *Oncologist*. 2020 Oct 3.

