

DISCLOSURE OF INVENTION

This form is used to disclose new inventions for assessment and possible commercialization and to meet obligations of disclosure as required under TAMUS Policy 17.01. Submit your completed, signed Disclosure of Invention form, Inventor Data Sheet(s), Agreement for the Distribution of Licensing Income for Invention form, and any additional documentation to Texas A&M Technology Commercialization at ttc-disclosures@tamu.edu.

1. *Title of Invention:* Elixirum: An anti-senescent and chemotherapeutic extract for pharmacological use

2. *Key Words:* anti-aging, senescence, oral therapeutic, anti-oxidant, DNA damage, cancer, leukemia, fountain of youth, the philosophers stone, panacea

3. *Lead Inventor¹:* Orpheous Hexenjäger, PhD

4. *Other A&M System Inventor(s):*

5. *Non-A&M System Inventor(s):*

6. *Summary of Invention:*

Briefly describe this invention.

This invention describes the extraction and use of a pharmaceutical composition derived from the discovery of a certain stone, (lapis philosophorum), retrieved from the ruins of the ancient city of Panapolis (modern day Akhmim, Egypt). The extract, called "elixirim" is prepared via a proprietary process and has been demonstrated in in vitro testing to reverse the effects of cellular senescence, potent anti-tumorogenic properties, and has shown to indefinitely prolong the lifespan of CD1 mice in laboratory tests. Although the mechanism of action remains to be resolved, there is evidence that points to the modulation of cellular apoptotic pathways via oxidative stress and DNA damage. This invention represents a novel breakthrough in anti-aging therapies and subsequently is a prime candidate for evaluation for licensing and commercialization.

7. *Novel Aspects:*

What is this invention made of?

Liquid pharmaceutical composition of the chemical extract from lapis philosophorum (100mcg/mL)

If this invention is, or includes, a process/method, what is that process/method?

Elixirum is extracted from lapis philosophorum through a high temperature pyrolysis along with concentrations of the following substances: conium, desiccated hands of brigands, lypholized C₃₄H₄₇NO₁₁ (aconitine), C₁₇H₂₁NO₄ (Benzoylmethylecgonine), and C₂₉H₅₂O₈ N₈ S₈ Fe₄ isolated from the blood sera of female adolescents. More details are provided of this process in the publication attached to this report: ["Hexenjäger, O. Elixirum. Journal of Alchemical & Decoctive Methods. 2020]

¹ For purposes of this disclosure, designate a person that is currently employed by The Texas A&M University System



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What is new or unique about this invention?

This invention is a completely novel chemical entity that has unprecedented anti-aging properties. It is synthesized from non-naturally occurring compound that is unique in the world of material sciences. The compound, elixirum, has been shown to be widely bioavailable in our studies, unlike other similar compounds; and can be potentially administered through a variety of routes, ranging from dermal application, intravenous injection, to oral consumption. Furthermore, Elixirum has been shown to raise survival rates to 100% for 6 months after metastatic infection in CD-1 mice.

8. *Utility:*

How can this invention be used to create a commercial product or service or how can it be used in industry?

The prolonging of life is ostensibly of paramount concern to the living, which constituted almost 7 billion people worldwide. While the full scope of the therapeutic applicability of Elixirum remains to be fully investigated, thus far, we have cause to believe that it reverses cellular senescence and is profoundly chemotherapeutic, especially as it related to leukemia cells. Thus, we believe that this substance can be commercialized into a cancer therapy as well as the world's first clinically proven anti-aging pharmaceutical product.

9. *Benefits and Advantages:*

What technologies exist to address the same problems or opportunities as this invention?

There are currently no known technologies that are able to prolong life nor completely eradicate cancerous cells in the body, especially after metastasis.

What are the benefits and advantages of this invention compared to these existing technologies?

Reverse anti-aging is intriguing to humanity and the potential to pro-long life is highly sought upon. There are no existing technologies that offer such a lifechanging affect. Elixirum can also be used as a cancer therapy by reversing cellular senescence. Elixirum can be administered several different ways, such as dermal application, intravenous injection, or oral consumption.

10. *Stage of Development:*

What is the earliest date of conception of the invention? 12/2019

What results have you obtained that support the idea that this invention is feasible and can work.

Elixirum has been demonstrated in in vitro testing to reverse the effects of cellular senescence, potent anti-tumorigenic properties, and has shown to indefinitely prolong the lifespan of CD1 mice in laboratory tests. From our laboratory results we have concluded that our technology is feasible and can work and we would like to further develop our technology in phase 1 clinical trial testings.

Is there a prototype? Yes No

How would the invention be made or practiced commercially?

The invention would be made by extracting Elixirum from lapis philosophorum through a high temperature pyrolysis along with concentrations of the following substances: conium, dessicated terminal phalanxes of brigands, lypholized C₃₄H₄₇NO₁₁ (aconitine), C₁₇H₂₁NO₄ (Benzoylmethylecgonine), and C₂₉H₅₂O₈ N₈ S₈ Fe₄ isolated from the blood sera of female adolescents. The invention would be practiced commercially as the dermal application and oral consumption could be purchased over the counter at a local drug store/pharmacy. The intravenous injection of Elixirum would need to be administered by a doctor, if the patient is prefers this method of use.

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What additional research or experimentation is needed to determine how this would be practiced commercially?

In order to progress our research and experimentation, it is necessary that we begin phase 1 of clinical trials. As our research has shown promising for testing on CD1 mice, it is essential we further the development of experiments through the use of testing on humans. The phase 1 clinical trials will allow us to grasp just how effective the three methods of administered use of the technology are.

11. *Future Plans:*

Do you plan to continue developing or working with this invention? Yes No

If so, what are your goals and next steps.

Our next steps for developing this invention consist of advancing our research and experiments to phase 1 clinical trials. Our goal moving forward is to have the same result we saw with the CD1 mice, with humans.

12. *Public Disclosures: Examples of forms of disclosure include abstracts, proposals, journal articles, submitted manuscripts, theses, public presentations, web pages, posters, consultations, and verbal and written discussions; in each case, this is with respect to disclosures with parties outside of the A&M System.*

List all external disclosures of information that have been made about this invention regardless of form. Include description and disclosure date. Submit copies of these with this disclosure form.

- Hexenjäger, O. Elixirum. Journal of Alchemical & Decoctive Methods. 2020
- Hexenjäger, O. "Elixirum, The Secret To Staying Young." The Epochal Chronicle, vol. 1, no. 3, June 2020, pp. 451–486.
- Hexenjäger, O. "Elixirum & Chemotherapy." Journal of Cancer Studies, vol. 2, no. 4, April 2020, pp. 31–46.

What are your planned public disclosures for this invention? This includes any planned discussions with potential licensees or research sponsors. Provide a description and planned disclosure date for these. Submit with this disclosure form any copies of draft abstracts, publications, proposals, posters, etc. that you have for these planned public disclosures.

Presentation Poster- "Elixirum and its use for anti-aging and chemotherapy." Planned discussion with potential licensee, Innovative Tech on December 7, 2020.

13. *Other Contractual Obligations: Rights in technologies may be impacted by materials of others used to develop them (e.g. materials obtained from a company; materials sent by a colleague at another institution; purchased materials for which there was a purchase agreement; information received from an outside party under terms of confidentiality; software received under a license from an outside party).*

What are the materials/information used in the conception and development of this invention?

None

From whom were these materials/information obtained?

TAMUIP/ Texas A&M University.

Was a Material Transfer Agreement, Nondisclosure/Confidentiality Agreement, license or other agreement required to obtain the materials/information:

No

14. *Outside Commercial Interest.*



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Are you aware of any commercial interest from companies, including start-up interest, in this invention? Yes No

If so, please include company names and contacts that you may have.

Innovative Tech is interested in the technology. John Smith, CEO is the best point of contact and can be reached at john.innovativetech@tech.com

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15. *Funding: Rights in technologies may be impacted by, or obligated under, the terms of agreements with entities that provided the funding that led to the invention's development. Examples of entities that provide funding under agreements include, but are not limited to, federal agencies, state agencies, non-profit research foundations, commodity boards, private companies, industry associations/organizations, and providers of gift contributions.*

Describe the internal resources that were used in the development of this invention:

Use of Texas A&M University lab equipment

Which A&M System member(s) funds were utilized in the creation of the invention (e.g. AgriLife, TAMU, TEES, etc.):

TAMUIP

Identify all external sources of funding used in the conception and development of the disclosed invention; include grant numbers or other unique, assigned identifiers for each in the table below:

<i>Name of Funding Agency/Entity</i>	<i>Federal Grant/Agreement/Contract/Other Type of Award No.</i>	<i>MAESTRO Project ID No. (M#####) (other Internal Acct. No./other Type of Internal Reference No. if no MAESTRO Project ID)</i>	<i>Office managing award (AgriLife, TAMU, SRS, TEES, etc.)</i>
Tech Soul	TS004400		TAMUIP

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16. *Export Control. THIS SECTION MUST BE COMPLETED. The Texas A&M University System (TAMUS) has an obligation to implement an export control compliance program to reduce the risk of export control violations. All employees and students must be aware of and are responsible for the export control implications of their work and must ensure their activities conform to export control laws and regulations. There are severe institutional and individual sanctions for violations of export control laws and regulations, including the loss of research funding, loss of export privileges, as well as criminal and civil penalties. It is important for the A&M System to understand if the invention that is the subject of this disclosure is controlled by export regulations.*

Answer the following questions for this purpose:²

To the best of the inventors' knowledge, is the invention being disclosed or the technical information in the disclosure subject to US export Control laws including, without limitation, those implemented by the Department of Commerce through its Export Administration Regulations (EAR)³ and the Department of State through its International Traffic in Arms Regulations (ITAR)⁴, as well as those imposed by the Treasury Department through its Office of Foreign Assets Control (OFAC)⁵? Yes No

If yes, explain:

What is the invention made of?

The invention would be made by extracting Elixirum from lapis philosophorum through a high temperature pyrolysis along with concentrations of the following substances: conium, dessicated hands of brigands, lypholized C34H47NO11 (aconitine), C17H21NO4 (Benzoylmethylecgonine), and C2952 H4664 O832 N812 S8 Fe4 isolated from the blood sera of female adolescents.

Provide a detailed list of components, chemicals, etc.:

Conium, dessicated hands of brigands, lypholized C34H47NO11 (aconitine), C17H21NO4 (Benzoylmethylecgonine), and C2952 H4664 O832 N812 S8 Fe4 isolated from the blood sera of female adolescents.

Does your disclosure involve actual technology that has been completed or is the invention only theoretical?

This disclosure involves actual technology that has been completed.

Was there any language in your grant that prohibits the participation of foreign nationals?

NO.

² If you are unsure if the invention that is the subject of the disclosure is subject to export control, please check with the Office of Research Compliance. The Office of Research Compliance (ORC) maintains a website with export control information and resources at <http://researchcompliance.tamu.edu/>. Additional information and resources regarding these and other regulations that impact university activities can be found at <http://researchcompliance.tamu.edu/export-controls>. Questions on export controls can be sent to exportcontrols@tamu.edu.

³ The Export Administration Regulations (EAR) 15 CFR 700-799 can be found at http://www.access.gpo.gov/nara/cfr/waisidx_99/15cfrv2_99.html.

⁴ The International Traffic In Arms Regulations (ITAR) 22 CFR 120-130 can be found at http://www.pmdtc.state.gov/regulations_laws/itar_official.html.

⁵ The Office of Foreign Assets Control (OFAC) 31 CFR 500-599 can be found at http://www.access.gpo.gov/nara/cfr/waisidx_08/31cfrv3_08.html#500.

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Are there any publication restrictions in your grant or contract? Yes No



DISCLOSURE OF INVENTION INVENTOR DATA SHEET

Complete an Inventor Data Sheet for each named inventor including non-TAMUS inventors and submit all Inventor Data Sheets with the Disclosure of Invention¹.

Title of Invention: Elixirum: An anti-senescent and chemotherapeutic extract for pharmacological use

Contribution:

Briefly describe your contribution to the disclosed invention.

Orpheous Hexenjäger, PhD

Inventor:

First Name: Orpheous

MI: Z.

Last Name: Hexenjäger

Preferred Salutation: Dr.

(e.g. Ms., Mrs., Mr., Dr., Other (identify))

Degree: PhD

(e.g. PhD, DVM, MD, MS, BS, Other (identify))

University ID Number (UIN): 227008967

Country of Citizenship: Germany

<u>Work Address</u>	<u>Home Address</u>
Street Address: 1249 Innovation St	Street Address: 3214 Inventor Ave
City/State/Zip: College Station, Texas 77843	City/State/Zip: College Station, Texas 77845
Phone: 900-045-0000	Phone: 900-045-0000
Email: Orpheouszh@tamu.edu	Email: Orepheouszh@gmail.com

Identify any joint appointments and/or affiliation that you have with another institution, including but not limited to joint appointments within TAMUS (if any):

TAMUS Employment Status/Title (including former employees): Professor

(e.g. Professor, Assistant Professor, Associate Professor, Employed Student, Other (identify))

Are you a former Texas A&M University System Employee? Yes No

If "Yes", were you employed by the A&M System at the time of invention or discovery?

Yes No Provide additional information if needed:

TAMUS Member (e.g. AgriLife, TAMU, TEES, TTI, TAMU-Kingsville, TAMU-Corpus Christi, etc.):

TAMU

Department/Division: College of Science/Chemistry

Laboratory or Center:

If "No", Non-TAMUS Employment Status/Title (**for non-TAMUS inventors only**):

Name:

Status:

Position/Title:

Organization Name:

¹ Additional Inventor Data Sheets may be found at <http://techtransfer.tamu.edu>.



DISCLOSURE OF INVENTION SIGNATURE PAGE

Each named inventor must sign and date this page; non-TAMUS inventor signatures are optional, but still must be named on this page. Identify each inventor’s percentage of contribution to the disclosed invention¹.

Title of Invention: Elixirum: An anti-senescent and chemotherapeutic extract for pharmacological use

Inventor Signatures

I/We certify that the information in this Disclosure of Invention is complete and accurate.

Printed Name: Orpheous Hexenjäger	% Contribution: 100%	Date: July 7 th , 2020
Printed Name:	% Contribution	Date
Printed Name:	% Contribution	Date
Printed Name:	% Contribution	Date
Printed Name:	% Contribution	Date
Printed Name:	% Contribution	Date

Witness Signature (optional)

Disclosed to and understood by me on this 7 day of July, 2020

Printed Name:

Submit this completed Disclosure of Invention form, including all Inventor Data Sheet(s), and Inventor signatures where applicable, to ttc-disclosures@tamu.edu or mail to:

**Texas A&M Technology Commercialization / Attn: Disclosure of Invention
3369 TAMU / College Station, TX 77843-3369**

¹ All TAMUS-inventors must also complete the “Agreement for Distribution of Licensing Income for Invention” form on the following page. The above percentages are not intended for purposes of TAMUS distribution of licensing income.

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AGREEMENT FOR DISTRIBUTION OF LICENSING INCOME FOR INVENTION

To be completed by TAMUS-employed inventors only (currently employed or employed by TAMUS at the time of the inventor’s contribution to the invention).

I/We, the undersigned, as named TAMUS inventor(s) on the subject invention, agree and acknowledge that:

- (i) licensing income generated by this invention which accrues to named inventor(s) under The Texas A&M University System (TAMUS) Policy 17.01, *Intellectual Property Management and Commercialization*, should be distributed to the named inventor(s) in the proportions (percentages) designated below;
- (ii) if a named inventor is determined not to be an inventor under relevant laws (an “excluded inventor”), the excluded inventor is not eligible for licensing income distribution;
- (iii) inventors must notify the TTC if their address changes; and
- (iv) in the event the inventors are unable to agree upon an appropriate sharing arrangement amongst themselves, the sharing portions will be decided by the inventors’ member CEO and this decision will be binding on the inventors.

Agreement for Distribution of Licensing Income for			
Title of Invention: Elixirum: An anti-senescent and chemotherapeutic extract for pharmacological use			
Inventor Name (printed)	Inventor Signature	Percentage ¹	Date
Orpheous Hexenjäger		100	7-7-2019
			a

¹ Percentages must total to 100%