UNVEILING INNOVATION: A deep dive into OniX AI and OniX Hub

PARTNERING | FUNDING | INNOVATION | KNOWLEDGE | LICENSING | INVESTIG

Introduction:

The quest for groundbreaking therapeutics faces numerous challenges. Fragmented information, a lack of early-stage visibility, and the sheer volume of research data hinder efficient discovery and development.

OniX: Bridging the Gap

OniX presents a transformative solution. By harnessing the power of a comprehensive data hub and cutting-edge AI, OniX empowers researchers, startups, and established players to

- **Uncover hidden gems**: Discover promising new ideas and technologies in their earliest stages.
- **Navigate the research landscape**: Gain a clear understanding of ongoing projects, assets, and competitors.
- **Forge strategic partnerships**: Connect with the right collaborators to accelerate progress.

OniX Hub: A Global Knowledge Repository

At the core lies the OniX Hub, a unique platform that aggregates a vast spectrum of research data, including:

- **Funded and unfunded grants[1M+]**: Gain insights into the latest research directions and funding priorities.
- **Tech transfer projects[20K+]**: Identify promising technologies transitioning from academia to industry.
- **Intramural projects [5K+]**: Explore research initiatives within leading institutions.
- **Publications[35M+]**: Stay current with the latest scientific advancements.
- **Patents[150M+]**: Understand the intellectual property landscape.
- **Clinical trials[800K+]**: Track the development of potential new therapies.
- **News**: Gain real-time awareness of industry trends and developments.
- **Biotech company pipelines [10K+]**: Access insights into the upcoming assets and projects from established players.

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OniX AI: Powering Innovation

OniX takes data aggregation a step further. Leveraging a sophisticated suite of AI technologies, including:

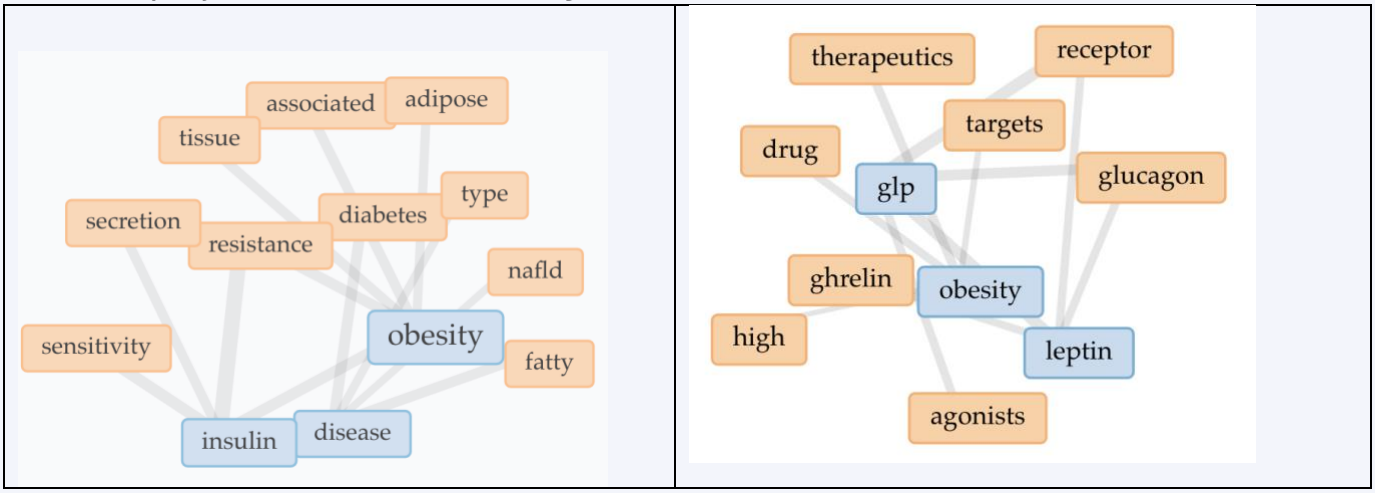
- **Machine Learning**: Algorithms learn from vast datasets to identify patterns and predict future trends.
- **Deep Learning**: Artificial neural networks mimic the human brain's structure to extract complex relationships within the data.
- **Neural Networks**: These interconnected processing units analyze data non-linearly, unearthing hidden connections and insights.

OniX AI empowers researchers and companies to:

- **Identify new ideas and technologies**: The AI engine actively scans the data landscape, uncovering promising early-stage projects with breakthrough potential.
- **Predict future directions**: By analyzing historical data and emerging trends, OniX AI can anticipate areas ripe for future exploration.
- **Connect with the right partners**: OniX AI helps identify researchers, companies, and key opinion leaders (KOLs) with complementary expertise, facilitating strategic collaborations.

Showcasing Innovation: A Glimpse into the Future

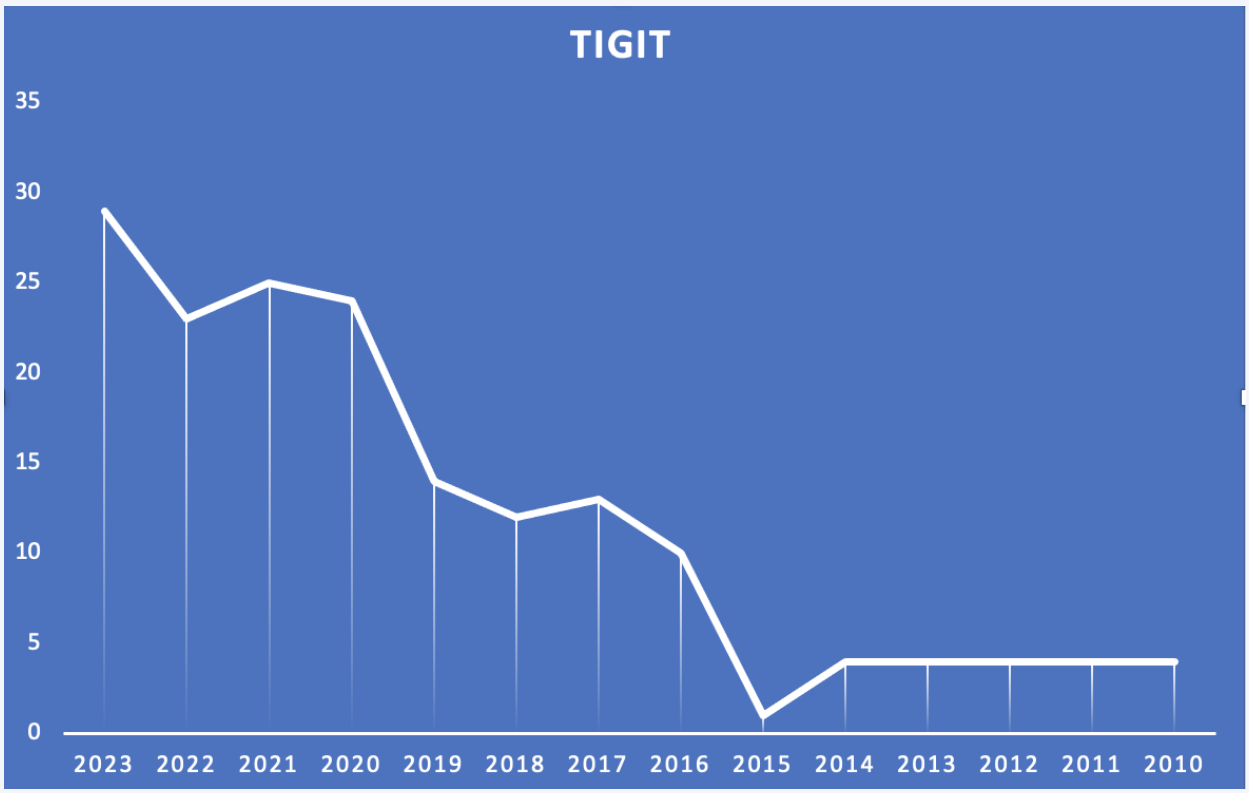
Image 1: Example Network Graph to develop a landscape analysis and to find innovate projects related to **Obesity**



This image represents the interconnectedness of various data points within the OniX Hub, showing the knowledge base and the relationships AI can analyze.

Image 2: Timeline Visualization

TIGIT: This image depicts the ability of OniX AI to track the **evolution of research areas by number of grants awarded over time,** showcasing emerging trends and potential breakthroughs.



Real-World Examples:

- **University of Rochester, NY, USA: Researchers at the University Rochester are developing an Anti-Fouling Peptide-Nanoparticle Conjugates for the Delivery of siRNA to Fractures.**

Research question: How can we improve the delivery of small interfering RNA (siRNA) drugs throughout the body (systemically)?

Problem: Naked siRNA drugs degrade quickly and have trouble entering cells. Nanoparticles (NPs) can protect siRNA, but they get stuck in the immune system and don't reach target tissues well.

Current solutions:

- **PEGylation**: Coating NPs with a molecule (PEG) to reduce protein sticking, but this can also make the NPs less effective.

Proposed solution: Coating NPs with specially designed **semi-randomized Zwitterionic Peptides (srZIPs)**. These peptides should reduce protein sticking while allowing the NPs to function effectively.

Methods:

- Develop a library of different srZIPs and test which ones prevent NPs from clumping together in blood serum (Aim 1).
- See how well srZIP-coated NPs deliver siRNA into target cells and avoid uptake by immune system cells (Aim 2).
- Test if srZIP-coated NPs carrying siRNA that helps bone healing can accumulate in fractured bones in mice (Aim 3).

Expected outcome: Identify effective srZIPs for coating NPs, which could lead to new ways to deliver siRNA drugs throughout the body for various diseases, including bone problems.

- **Example of Japanese Biotech Progress: Transition of Heartseed from Academia (Keio University) to Biotech Company**

The evolution of Heartseed from its roots in academia at Keio University to a thriving biotech company is exemplified by key milestones documented in the OniX Hub.

- **2015:**
  - **Research Publication: Keio University**
    - Seki T, Fukuda K. "Methods of induced pluripotent stem cells for clinical application." Published in World J Stem Cells, Jan 26, 2015.
    - DOI: 10.4252/wjsc.v7.i1.116
- **2016:**
  - **Grant Awarded by Japan AMED: Keio University**
    - Focused on establishing a method for manufacturing high-quality induced pluripotent stem (iPS) cells via chromatin remodeling factors.
- **2018:**
  - **Grant Awarded by Japan AMED: Heartseed**
    - Aimed at scrutinizing the quality and safety parameters crucial for transitioning to clinical trials. The focus was on the industrialization of iPS cell-derived regenerated cardiomyocyte transplantation therapy, with careful attention to regulatory responses.
- **2021:**
  - **Notable Events:**
    - Heartseed's announcement regarding the acceptance by PMDA (Pharmaceuticals and Medical Devices Agency) of the Clinical Trial Notification for the LAPiS Study. This Phase I/II Clinical Trial of HS-001, involving iPSC-derived Cardiomyocyte Spheroids for Heart Failure, marks a significant stride in Japan's clinical trial landscape.
    - Heartseed's eligibility to receive substantial payments, totaling up to 598 million US dollars, including upfront and near-term milestone payments worth 55 million dollars. This financial milestone signifies the recognition and validation of Heartseed's endeavors in the field.
    - Collaboration and License Agreement: Heartseed partners with Novo Nordisk on a global scale for stem cell-based therapy targeting heart failure. This partnership underscores the potential of stem cell technology in addressing critical healthcare needs worldwide.

These examples showcase the real-world application of the early identification projects/assets in the OniX Hub and potential impact on various stakeholders.

Summary:

OniX presents a paradigm shift in the world of therapeutic development. By offering a comprehensive data platform and leveraging the power of AI, OniX empowers researchers, startups, and established players to navigate the complex innovation landscape, identify groundbreaking ideas, and forge strategic partnerships that can accelerate the delivery of life-saving treatments.

Contact OniX to learn more about how our solutions can help you unlock the full potential of your research and development efforts.

Unveiling the Innovation Engine: OniX & OniX AI

Imagine a world where groundbreaking ideas are readily discoverable, hidden connections within the research landscape are illuminated, and strategic partnerships form effortlessly. This is the power of **OniX** and **OniX AI** working in concert.

- **OniX Hub: The Knowledge Powerhouse:**
  - Acts as a comprehensive data repository, encompassing a vast array of research sources – funded/unfunded grants, tech transfer projects, publications, patents, and more.
  - Provides a single point of access, eliminating the need to navigate through scattered information sources.

- **OniX AI: The Innovation Spark:**
  - Analyzes the vast data within the OniX Hub using cutting-edge machine learning and deep learning algorithms.
  - Uncovers promising new ideas and technologies in their earliest stages, acting as a powerful **innovation finder**.
  - Identifies hidden connections and potential collaborators, fostering strategic partnerships that accelerate progress.

Together, OniX and OniX AI offer a transformative solution:

- **Early-stage visibility:** Gain a crucial advantage by identifying groundbreaking ideas before they gain widespread attention.
- **Data-driven insights:** Leverage the power of AI to extract valuable knowledge from the vast research landscape.
- **Streamlined collaboration:** Connect with the right partners to bring your innovative ideas to fruition.

OniX and OniX AI – the perfect combination to unlock the full potential of innovation in the field of therapeutic development.