



Collaboration in Clicktromics™

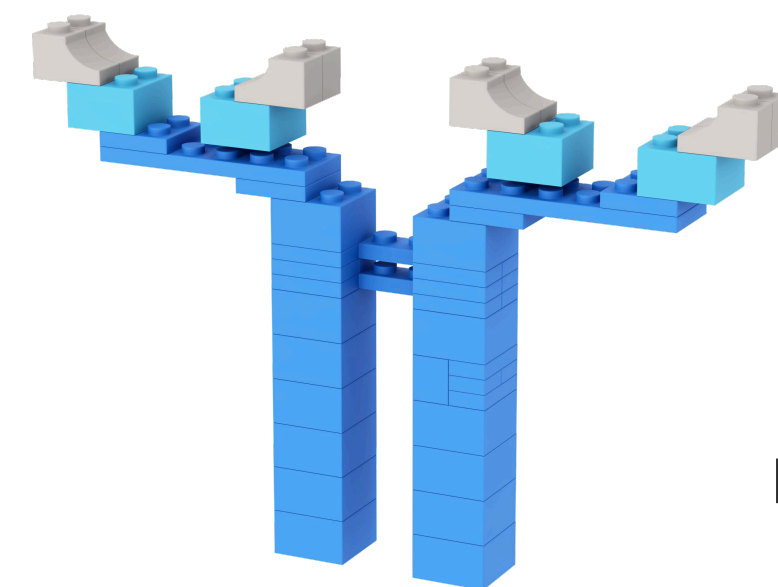


Using Bricks in **Clicktromics™** for **STEM Education**

Visualizing Click Chemistry with LEGO:

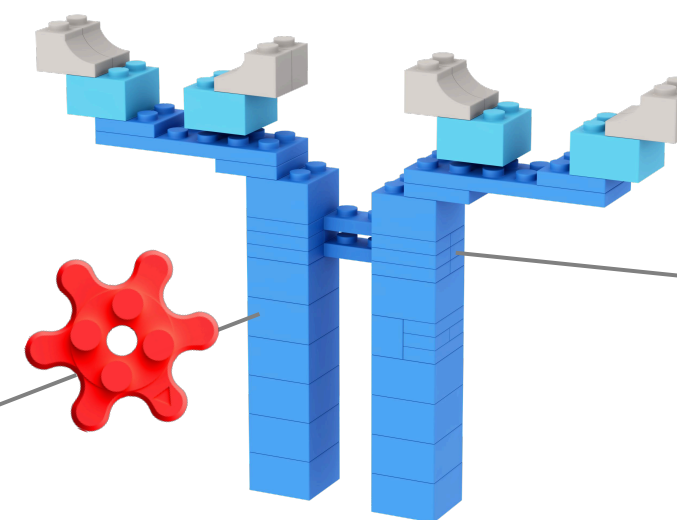
The **Clicktromics™** application, developed by **Cleverlab™** for the Prepaire Open Source Drug-Discovery platform, is an innovative bioinformatic tool designed to revolutionize the development of targeted therapeutics through advanced click chemistry techniques. At its core, Clicktromics simplifies and accelerates the creation of Antibody-Drug Conjugates (ADCs), cutting-edge therapies that precisely deliver potent medications directly to targets like diseased cells, such as cancerous tumors, while leaving healthy cells unharmed. But it can also be used to accurately delivery nutrients and bioregulators to organs for repair.

Bioorthogonal click-chemistry, is a groundbreaking approach pioneered by Nobel laureate Dr. Carolyn Bertozzi. Unlike traditional methods that require potentially harmful copper catalysts, Clicktromics leverages safer, copper-free reactions like Strain-Promoted Azide-Alkyne Cycloaddition (SPAAC). This ensures precise and secure linkage between antibodies and drug payloads, significantly enhancing patient safety and treatment efficacy.

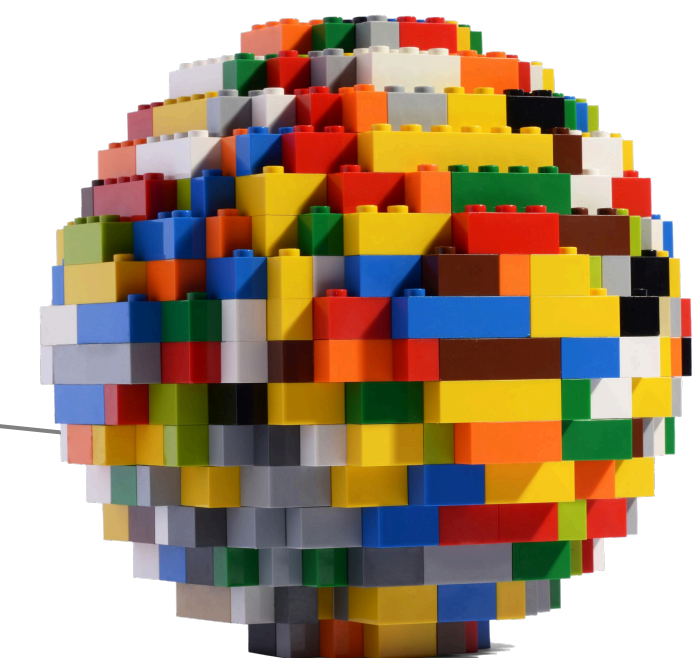


Antibody

Linker - Payload



Antibody Drug Conjugate (ADC)



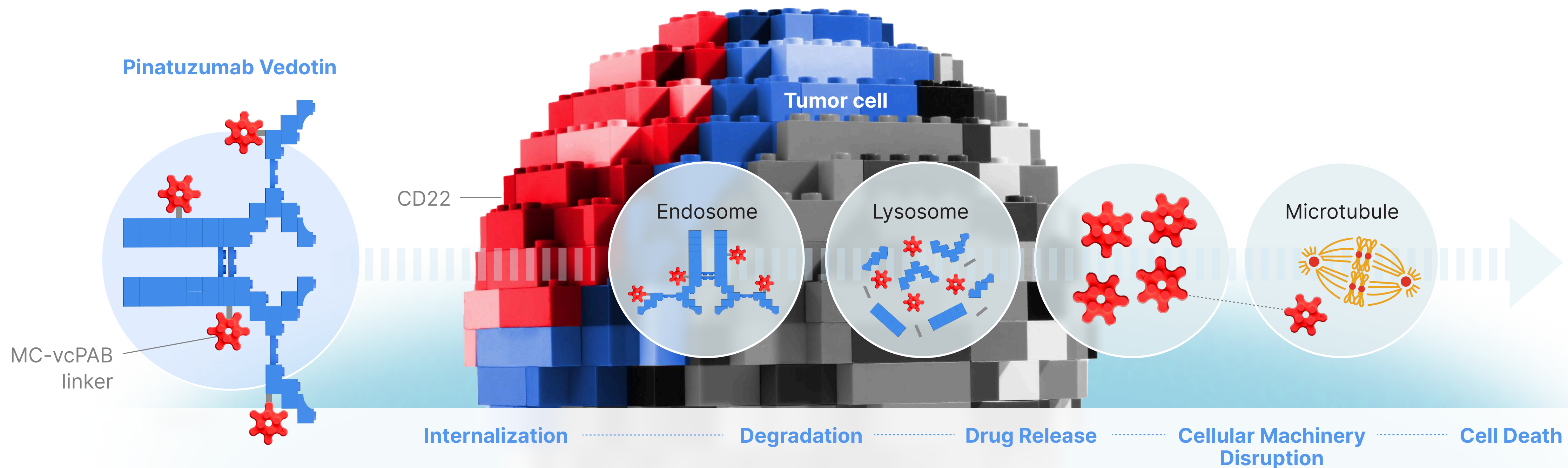
Target Cell

By integrating artificial intelligence and machine learning, Clicktromics enables researchers and clinicians to rapidly explore and optimize **countless combinations of antibodies, linkers, and therapeutic payloads.**

Visualizing Click Chemistry with

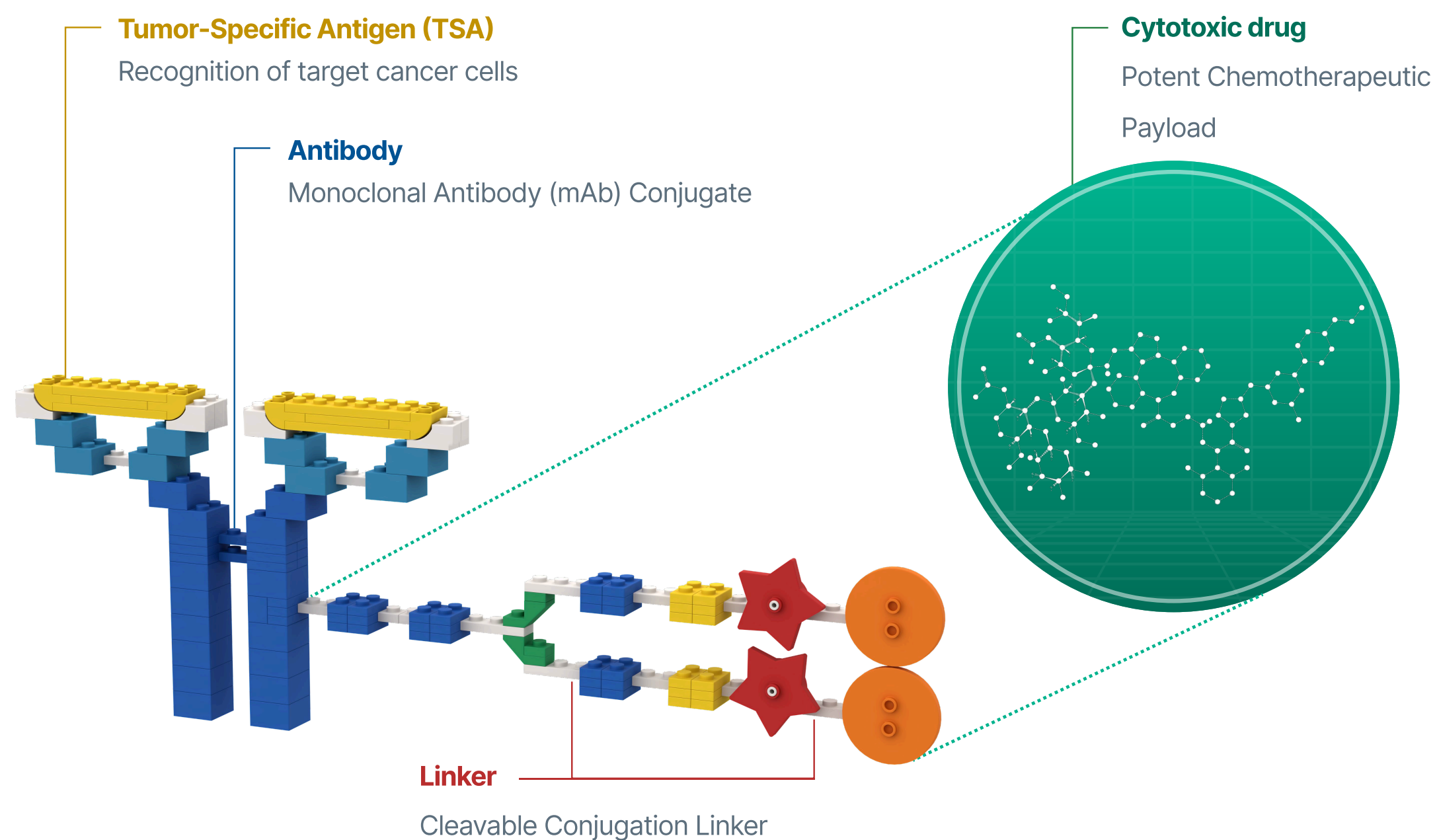
Visualizing Click Chemistry with LEGO:

Click chemistry is often compared to connecting LEGO bricks. We propose using LEGO brick models to visually animate chemical components (e.g. azides and alkynes) that “click” together, just as LEGO pieces lock together in a perfect fit. This tangible analogy can vividly demonstrate how bioorthogonal reactions work: only the intended pairs of bricks (representing bioorthogonal functional groups) attach to each other while ignoring all other pieces, mirroring how these reactions occur in living systems without disturbing native biology. By visualizing molecules and reactions with LEGO, complex concepts like catalyst-free cycloadditions or antibody-drug conjugation become accessible and fun for students and researchers alike.



LEGO - Based Modules in the Clicktromics™ App

We have developed an educational module within the Clicktromics app where students can build virtual molecular structures using LEGO-like blocks. For example, a high school user could assemble an antibody-drug conjugate (ADC) by dragging and snapping together virtual bricks representing an antibody, a linker, and a drug, reinforcing the idea that click chemistry “is like snapping Lego blocks together” to build complex molecules.



Clicktromics by CleverLab

John Doe

Start your Journey with

Clicktromics by CleverLab

Unlock the Future of Precision Medicine: Clicktromics for Seamless Antibody-Drug Conjugate Development

Select one of three scenarios

Fully Automate Journey | Screen Bio-Click | Generate an ADC

User Journey

Start

Search for PDB ID/Sequence/Disease Name | Antigen Selection | Antibody generation | Bio-click | Glycosylation

Workflow Table

Input	Module	Start date	End date	Progress
Hemagglutinin	Construct Antibody	Jan 05, 2024	Jan 06, 2024	80%
Immunoglobulin	Bio-click	Jan 05, 2024	Jan 06, 2024	Add Antigen
Hemagglutinin	Antibody	Jan 05, 2024	Jan 06, 2024	Add Payload
Antigen	Bio-click	Jan 05, 2024	Jan 06, 2024	Add Payload
Glycosylation	ADC	Jan 05, 2024	Jan 06, 2024	

LEGO

LEGO - Based Modules in the Clicktromics™ App

University-level modules could simulate specific bioorthogonal reactions (like an azide-alkyne cycloaddition) with color-coded bricks and interactive prompts. To support blended learning, **instructors can receive physical LEGO kits to conduct hands-on classroom demos (an approach validated by MIT's Edgerton Center, where students model real chemical reactions with LEGO bricks after a wet lab experiment)**. This combination of digital and physical LEGO-based learning caters to multiple learning styles and makes abstract biochemical processes tangible. We will create lesson plans and tutorial content aligning with chemistry curricula, ensuring the modules are age-appropriate (e.g. basic bonding for high school, advanced biochemistry for college).

The screenshot displays the Clicktromics app interface. At the top, the logo 'Clicktromics by CleverLab' is visible. Below it, the main heading reads 'Clicktromics™' with the tagline 'Unlock the Future of Precision Medicine: Clicktromics for Seamless Antibody-Drug Conjugate Development'. A prominent blue button says 'Start Building ADC'. Below this, a horizontal navigation bar includes 'Target Search', 'Antibody Generation', 'Construct / Select Payload', 'Docking Simulation', and 'Quantum Dot'. The central 'Workflow Table' lists several jobs with their IDs, modules, start/end dates, and progress indicators. A tutorial overlay on the right side of the screen provides a welcome message and an introductory tour.

Job ID	Module	Start date	End date	Status/Results
J8G2AA	Boltz	Mar 05, 2025	Mar 06, 2025	80%
K0H2IS	Homelette	Mar 07, 2025	Mar 08, 2025	Add Antigen Results
L9HIJ7	Diffab	Mar 09, 2025	Mar 10, 2025	Add Payload Results
HK9G09	Diffab	Mar 11, 2025	Mar 11, 2025	Add Payload Results
HJ5GSE	Homelette	Mar 14, 2025	Mar 16, 2025	Results
HOJK9O	Homelette	Mar 14, 2025	Mar 16, 2025	Results

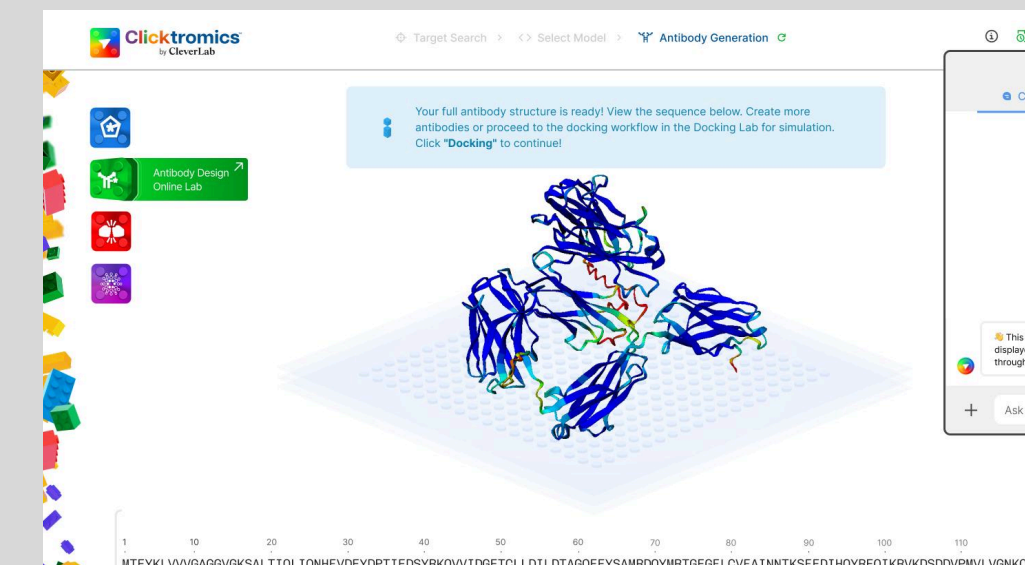
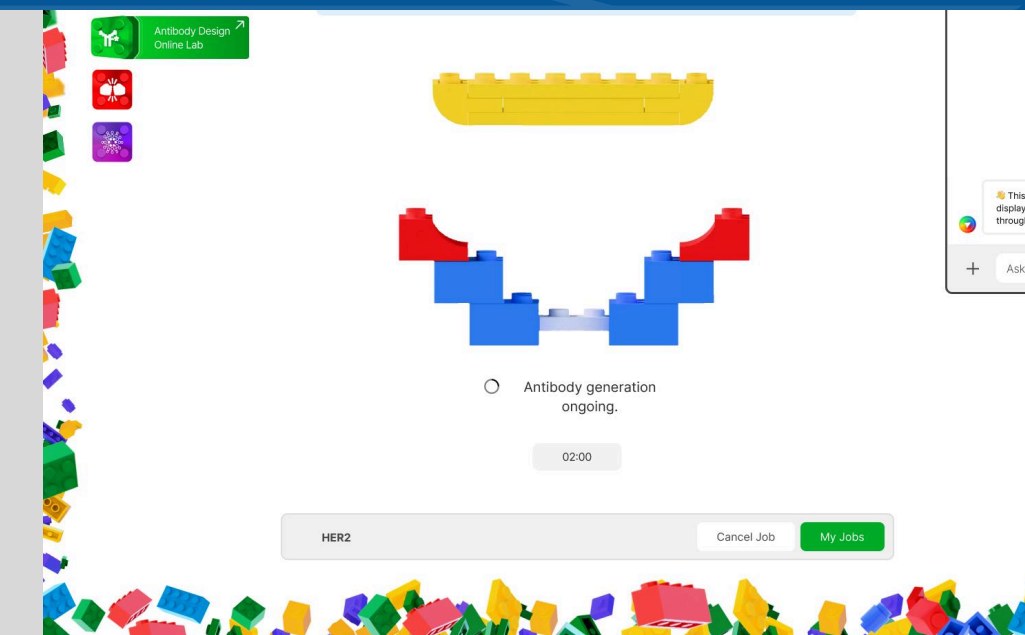
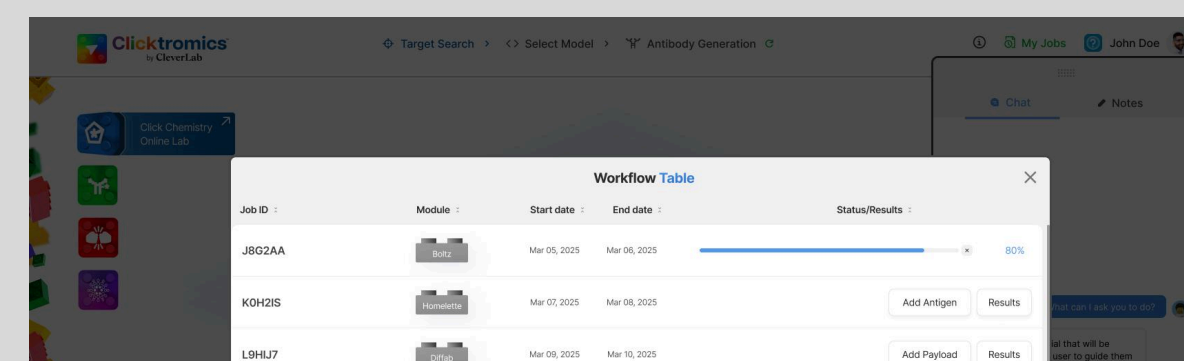
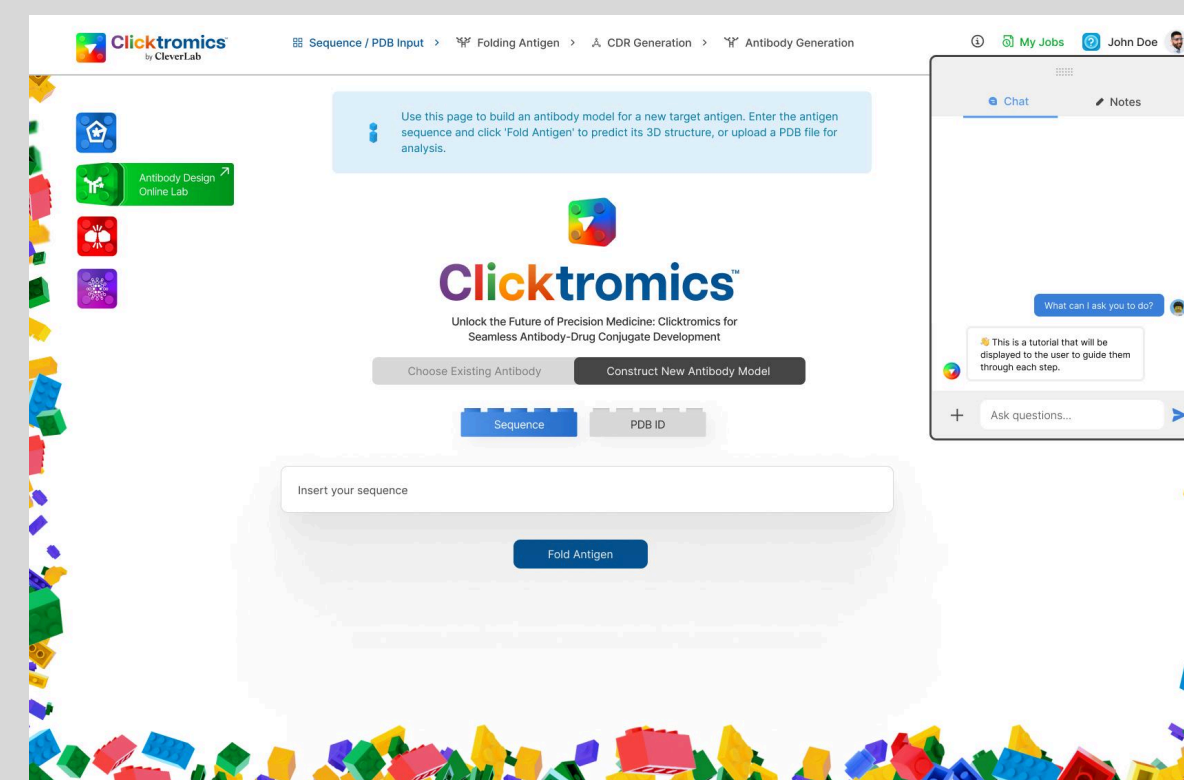
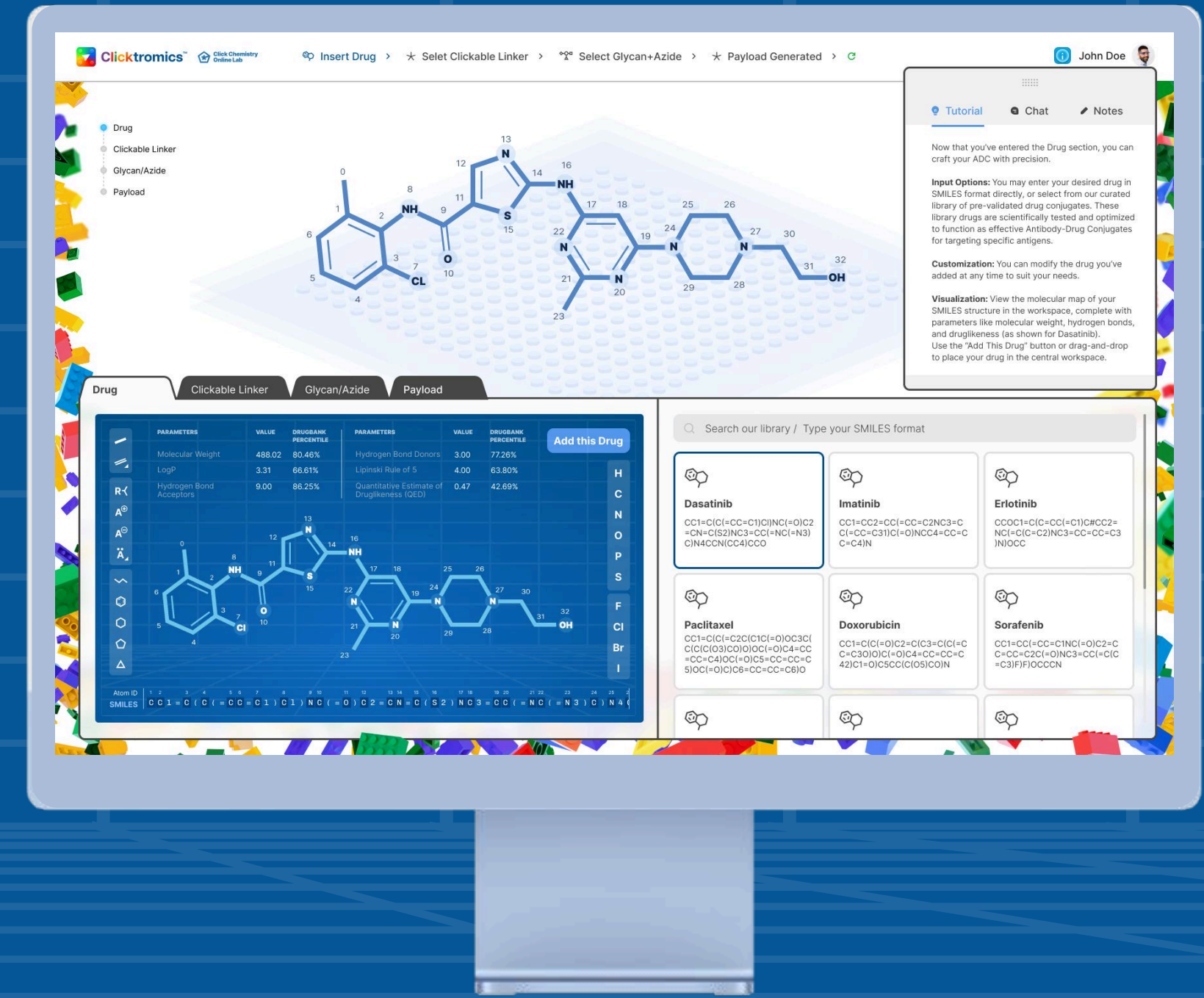


Alignment with LEGO's Educational Mission

This initiative closely aligns with LEGO's mission to "inspire and develop the builders of tomorrow" through playful learning. By leveraging LEGO in science education, Clicktromics transforms complex STEM content into an intuitive, playful experience, directly reflecting LEGO Education's goal of linking **STEM instruction to real-world experiences in an intuitive and fun way.**

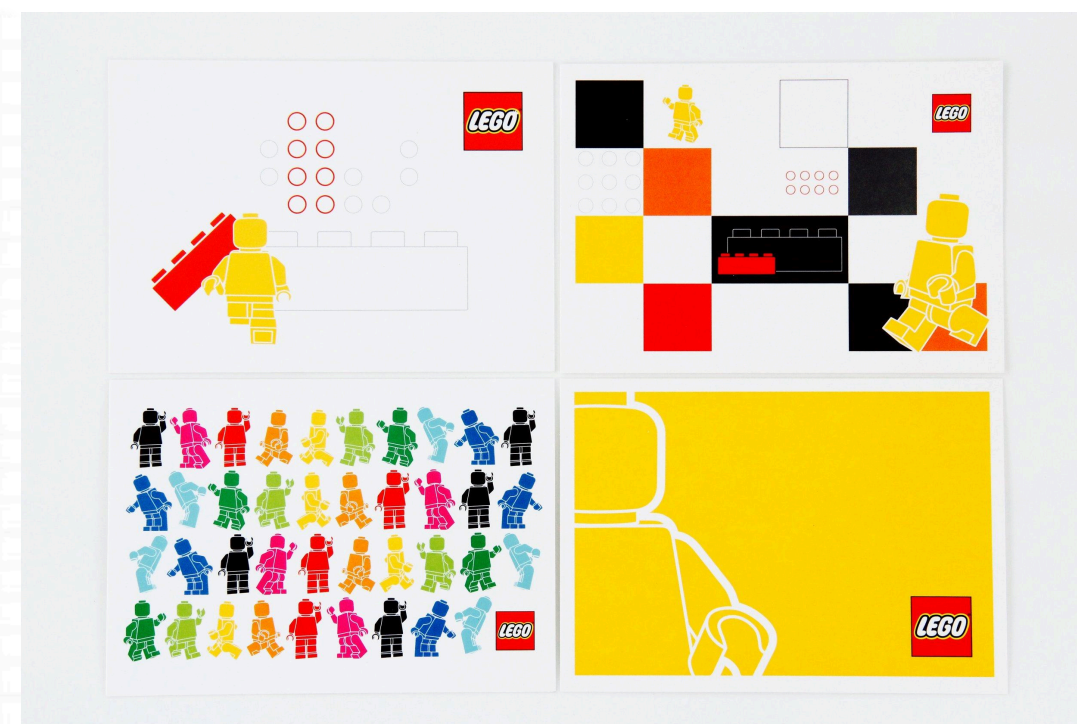


This collaboration would enhance LEGO's STEM outreach by introducing cutting-edge scientific concepts (like bioorthogonal chemistry, a 2022 Nobel-winning breakthrough) in a format that resonates with young learners. It demonstrates LEGO's commitment to evolving educational content for the 21st century, positioning LEGO as a key enabler in science education alongside its well-known efforts in robotics and coding.



Permission and Branding Considerations

To implement this, we seek LEGO Group's permission to use the LEGO® brand, brick imagery, and likeness within the Clicktromics platform. All digital bricks and physical kits would carry appropriate LEGO acknowledgments, and we would adhere to LEGO's brand and quality standards in the app's design. This partnership can be structured to give LEGO visibility as a sponsor of the educational content, further solidifying LEGO's brand in STEM education.



Overview of Cleverlab

Innovating at the Intersection of Biotech and Nanotech: Cleverlab is the parent company behind Clicktromics™ and a portfolio of breakthrough technologies in health science. Based in Sweden and inspired by Nobel-caliber science, Cleverlab's mission is to bring "precision crafted wellness" and cutting-edge therapeutics to the world. The company's diverse projects range from digital drug design to advanced materials, all unified by a focus on innovation and real-world impact.



Market Potential and Growth

Each of Cleverlab's verticals targets robust markets on an upward trajectory. From a high-level perspective, our portfolio taps into healthcare and wellness sectors collectively worth well over \$100 billion in the coming years. We address both ends of the spectrum, regulated pharmaceutical innovation and consumer health, balancing risk and reward.

For instance, Clicktromics and Quantum Dots play in pharma/biotech arenas with high growth (ADC therapeutics ~9% CAGR, nanotech ~20%+ CAGR), while CleverGum targets the wellness consumer market (~14% CAGR for brain health products) with nearer-term revenue potential. This blend means an investment in Cleverlab isn't reliant on a single product's success; rather, KIRKBI gains a diversified position across multiple cutting-edge domains.



Clicktromics: A digital platform for designing targeted therapies using click chemistry.

What it is: an AI-driven application that simplifies and accelerates the creation of antibody-drug conjugates (ADCs), complex medicines that deliver potent drugs directly to cancer cells.

Market & impact: ADCs are a fast-growing class of therapeutics, with a global market size estimated at \$11–12 billion in 2023 and projected to nearly triple by 2030. Clicktromics capitalizes on this growth by enabling more efficient discovery of ADCs and other bioconjugates. By lowering R&D costs and timelines, it addresses a critical industry need as the number of ADC candidates in development surges. Clicktromics stands at the nexus of two trends, AI in drug discovery and bioorthogonal chemistry, positioning it as a potential leader in the pharmaceutical design software market.



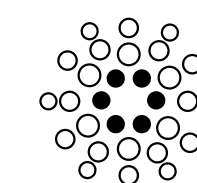
clever
gum



CleverGum: A nootropic chewing gum that delivers cognitive-enhancing bioactive compounds in a convenient format.

What it is: a patent-pending functional gum infused with peptide bioregulators and other natural nutraceuticals to boost precision performance and overall health. The gum uses advanced formulation (including click-chemistry and lipid nanoparticles for targeted delivery) to ensure actives are absorbed quickly via the oral mucosa.

Market & impact: CleverGum targets the booming wellness market. Just the global nootropics market alone, is forecast to grow to around \$11 billion by 2030 (14–15% CAGR), as consumers seek safer, effective alternatives to energy drinks and pills. By combining lab-proven bioregulators with an enjoyable format, CleverGum is poised to disrupt the supplement space, offering KIRKBI a stake in a consumer product with mass-market appeal and scientific differentiation. Moreover, the same gum technology can be extended to vitamins or even certain therapeutics, tapping into the broader dietary supplements market (worth \$150B+ globally). CleverGum's near-term commercialization plan means revenue generation could start sooner than typical biotech ventures, providing an early return on investment.



Quantum Dots

Quantum Dots (Nanotech Division): Research and development of quantum dot nanomaterials for biomedical applications.

What it is: Cleverlab is implementing proprietary quantum dots, tiny semiconductor nanoparticles, for uses such as medical imaging contrast agents and targeted drug delivery. Our quantum dots boast high stability and tunable fluorescence, making them ideal for diagnostics (for example, labeling cancer cells) and advanced PK studies.

Market & impact: The global quantum dots market is growing explosively, expected to rise from ~\$6.5 billion in 2022 to over \$25 billion by 2028 at ~23% CAGR. Cleverlab's focus is on biomedical quantum dots, addressing a need for brighter, more biocompatible imaging probes in research and clinical diagnostics. As precision medicine advances, demand is rising for such nanotech tools.

Funding Requirements (Venture Stage)

CleverLab

Cleverlab is seeking **venture funding in the amount of \$18.7 million**. This represents combined pre-Series A and Series A financing to carry the company through critical development phases. According to our detailed financial projections, ~\$13.3M will be used to achieve full product readiness (R&D, prototyping, and initial production) across our projects, followed by ~\$2M for marketing and ~\$4M for scaling up manufacturing and outfitting lab facilities.



We are proposing KIRKBI to consider the role as a lead investor, which would provide a meaningful equity stake in Cleverlab. **We anticipate this funding round providing a runway of ~18-24 months**, by which time we aim to achieve major inflection points (product launch, user adoption, strategic partnerships) that significantly step up the company's valuation.

Strategic Benefits for KIRKBI and LEGO

Partnering with Cleverlab offers more than financial return:

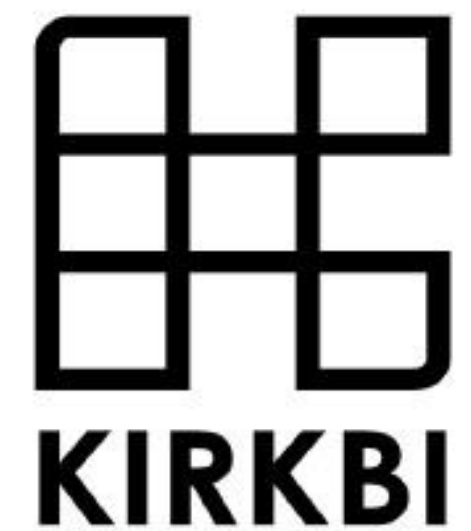
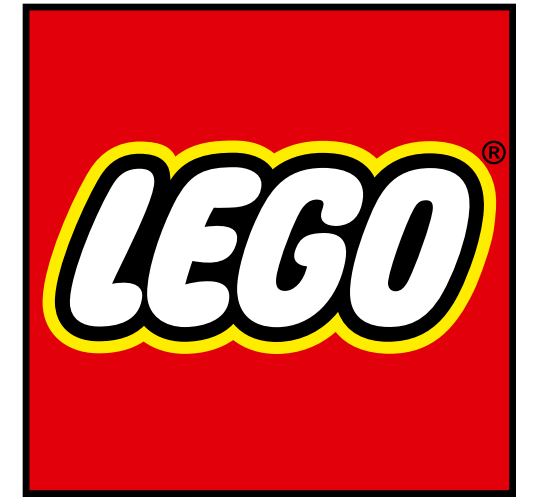
Accelerating Innovation in Education: By supporting the LEGO-Clicktromics educational integration, KIRKBI helps advance an innovative STEM learning tool that could inspire the next generation of scientists. This collaboration showcases LEGO's commitment to science education at the high-school and university level, reinforcing brand loyalty among educators and students. KIRKBI's investment thus has an immediate social impact, **promoting STEM engagement** in a novel way that few other investments can match.

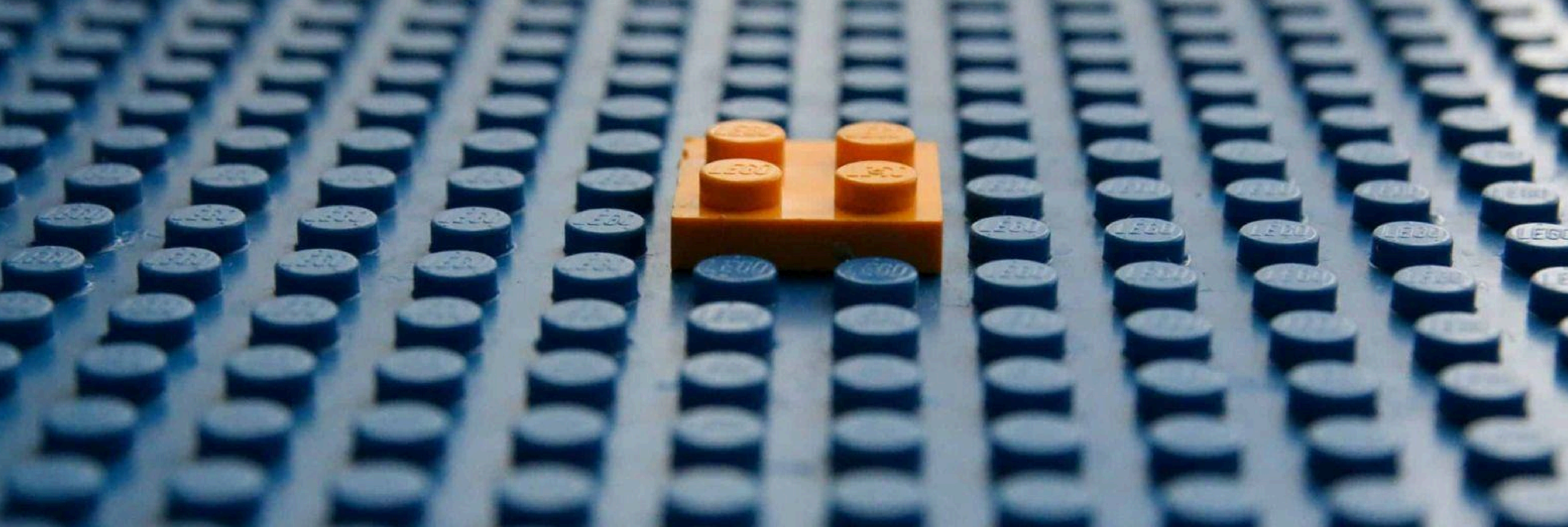
Long-Term Growth and Returns: The sectors Cleverlab operates in, biotech, nanotech, and wellness, are poised for strong long-term growth. Cleverlab are building platforms in areas like precision medicine that can transform health outcomes over the coming decade. A successful ADC design platform or a popular nootropic product line could yield substantial returns (through either profitable operations or a liquidity event).

Portfolio Diversification with Impact: KIRKBI's portfolio would gain diversification into cutting-edge life sciences, a sector relatively removed from cyclical industries and closely tied to global well-being. This investment aligns with KIRKBI's mandate of "building a sustainable future...through generations", as health and longevity are key components of a sustainable future.

Collaborative Synergies: With KIRKBI's involvement, Cleverlab would welcome opportunities to collaborate with other entities in the LEGO ecosystem. For instance, there could be future synergies between our educational content and LEGO Education's offerings, or joint public outreach (science fairs, innovation challenges) sponsored by LEGO and Cleverlab.

Through the **LEGO-Clicktromics** educational module, we can demystify advanced chemistry for young minds, perfectly encapsulating LEGO's spirit of learning through play. Through a **KIRKBI investment in Cleverlab**, we can accelerate the development of multiple high-impact technologies, from life-saving therapeutics to novel consumer health products, promising both significant returns and positive societal impact.





We invite you to join us in building the future of STEM education and healthcare, brick by brick.