Narval

CONTACT

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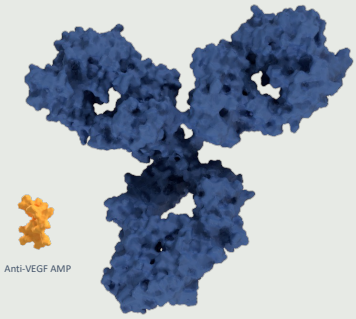
New Genesis

The Problem We Solve

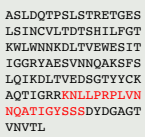
Therapeutic antibodies are one of the most important technologies in modern medicine, with an estimated market size of over $200 billion per year. However, these drugs face a major challenge: they must be injected in high doses into the bloodstream to ensure they reach the therapeutic target site. This significantly increases the risk of severe systemic side effects and raises treatment costs.
Most diseases could be treated more effectively using therapeutic antibodies with targeted dosing and localized action, delivering the treatment only to the affected area at much lower doses. This approach would reduce systemic side effects while increasing treatment efficiency and response speed.
However, monoclonal antibodies have significant limitations, including their inability to cross most tissue barriers in the body and instability outside the cold chain, restricting the development of new therapeutic antibodies to a very limited set of applications. As a result, most diseases affecting the global population remain untreatable with existing antibody therapies.

Our Technology Platform

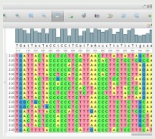
At Narval, we develop a new class of therapeutic antibodies using synthetic proteins that mimic antibody activity and can be administered through mucosal surfaces and the skin for localized, non-systemic treatment of respiratory, autoimmune, and ophthalmic diseases. Our AMPs (Antibody-Mimicking Proteins) are 40 times smaller than monoclonal antibodies, allowing them to penetrate body tissues effectively, heat-resistant, eliminating the need for cold storage, and produced entirely cell-free, making manufacturing more efficient and scalable. These advantages enable the creation of therapeutic antibodies for non-conventional applications, such as inhaled aerosols, ophthalmic drops, and transdermal administration. Our mission is to make therapeutic antibodies more accessible, flexible, and patient-friendly, eliminating the risks of systemic side effects while ensuring safe and effective treatments for millions of patients worldwide.



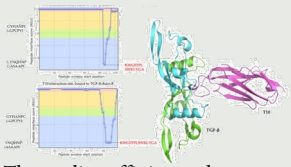
How Our AMP Platform Works



The CDR3 sequences capable of neutralizing the therapeutic target are selected from a synthetic library and fused in silico to the scaffold.



The AMP hits are optimized through direct in silico mutation to generate new versions of the AMP against the same therapeutic target.



The quality, affinity, and interactions of the optimized AMP are analyzed in silico using ML and AI algorithms to select the best leads.

The leads are synthesized for in vitro validation and candidate evaluation.

Founder team

Jose Luis Nuño
Founder y Chief Executive Officer
3X biotech founder.

Alejandro Nuño
Founder y Chief Scientific Officer
3X biotech founder.

Dr Alexei Licea
Academic Cofounder
2X biotech founder.

Current Traction

Our candidate AMP-1 will enter the preclinical phase in December 2024. This AMP was developed to treat Diabetic Retinopathy through topical ophthalmic administration, aiming to replace the current standard of care, which requires intravitreal injection of a monoclonal antibody into the eye. We have established a strategic alliance with the University of Tennessee for the preclinical phase of AMP-1. Additionally, we are in the pilot phase of a generative AI process in collaboration with the Molecular Biophysics Group at Oak Ridge National Laboratory to develop our AMPs entirely in silico.

Funding Round

Seed Round

Round Size: $2,600,000 USD
Runway: 24 months
Vehicle: SAFE

Uso de recursos:

- Human resources: 43%
- Tech Development : 45%
- Operating Expenses: 6%
- Business Development: 6%

Milestones

- Preclinical testing of AMP-1
- IND approval for AMP-1
- Develop two AMPs for the internal pipeline
- Secure three development contracts in partnership with pharmaceutical companies