

MygoGenesis Releases White Paper Announcing Mygotes™ Patient-Derived Developmental-State Cells for Regenerative Medicine

Challenging the iPSC model: Mygotes™ are native, non-genetically engineered, autologous embryonic-like cells for regenerative/cell therapies & bio production



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MygoGenesis today announced the publication of a new white paper introducing Mygotes™, autologous cells generated through the company's proprietary Mygotic Process™, as patient-derived, embryonic-like developmental-state cells for regenerative medicine, cell therapy, tissue engineering, and biomanufacturing.

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This is not simply another stem cell platform. It begins with an entirely new starting cell. MygoGenesis is building a better biology for regenerative medicine and human healthcare.”

*Deborah Zimmermann,
President & CEO of
MygoGenesis*

For decades, regenerative medicine has been constrained by a foundational problem: the field has been trying to build the future of medicine from imperfect starting cells.

Embryonic stem cells remain the biological benchmark for potency, plasticity, and broad developmental potential, but their embryonic origin creates significant ethical, legal, regulatory, and supply limitations. Induced pluripotent stem cells, or iPSCs, were developed to solve that problem by reprogramming adult cells into a pluripotent state without using embryos. But iPSCs introduced their own challenges, including low generation efficiency, residual

epigenetic memory, genomic instability, variable differentiation outcomes, lengthy manufacturing timelines, and the biological consequences of forced transcription-factor reprogramming.

The new MygoGenesis White Paper presents a different path.

Rather than forcing adult cells backward through genetic or viral reprogramming, the Mygotic Process™ is designed to restore patient-derived somatic cells to a more natural, highly plastic, early developmental state. The resulting cells, called Mygotes™, are autologous, laboratory produced, embryonic-like developmental-state cells generated without viral vectors, without genetic engineering, and without conventional iPSC reprogramming.

“Mygotes™ challenge one of the central assumptions in regenerative medicine: that iPSCs are the best available bridge between adult cells and therapeutic cell development,” said Daniel Kilbank, corresponding author of the white paper and co-founder and CSO of MygoGenesis™. “Our work points to a different conclusion. The field does not simply need better differentiation protocols. It needs a better starting cell.”

The white paper, titled “Autologous Mygotic Cells as Totipotent/Pluripotent Stem Cells: Overcoming iPSC Limitations and Generating All Three Lineages,” outlines the biological rationale and supporting data for Mygotes™ as a superior cellular foundation for regenerative medicine and biomanufacturing.

The paper describes Mygotes™ as:

- Generated from somatic cells through the proprietary Mygotic Process™
- Autologous and patient-derived
- Produced without viral vectors, vector-based manipulation, or genetic engineering
- Generated without forced transcription-factor reprogramming
- Expressing major pluripotency-associated markers including Sox2, Oct4, Nanog, SSEA-4, TRA-1-60, and TRA-1-81
- Capable of generating cell types across all three germ-layer lineages
- Produced on faster timelines than conventional iPSC workflows
- Designed as a regenerative starting cell for blood, cardiac, neural, pancreatic, kidney, cartilage, and other cell and tissue applications

The White Paper also presents a proof-of- science in which MygoGenesis generated hematopoietic progenitor cells and terminally differentiated red blood cells from fibroblasts through the Mygotic Process™. The data establish Mygotes™ as a powerful platform for autologous blood-cell generation, regenerative medicine, and scalable cell manufacturing.

The implications extend far beyond a single therapeutic application. If regenerative medicine is ultimately a manufacturing challenge, then the quality of the starting cell determines the quality, reliability, scalability, and clinical potential of everything built from it. Mygotes™ are designed to address these biomanufacturing challenges at the source.

Where iPSC workflows often require complex, extended, and variable reprogramming processes, Mygotes™ are generated through a rapid, non-genetic, patient-derived process intended to preserve the advantages of autologous cell systems while recovering the developmental

plasticity associated with early-stage biology.

“This is not simply another stem cell platform,” added Deborah Zimmermann, President and Chief Executive Officer. “It is a new starting point. Mygotes™ are intended to give regenerative medicine what it has been missing: a natural, patient-derived, embryonic-like cellular foundation without the embryo and without the burdens of iPSC engineering. We’re building a better biology for healthcare.”

The White Paper is part of a broader MygoGenesis publication series. The company plans to release an upcoming paper focused more comprehensively on the Mygotic Process™, including its mechanism, developmental stages, platform implications, and applications across therapeutic development and biomanufacturing.

The White Paper is available for download at: <https://mygogenesis.com/white-papers/>

About MygoGenesis

MygoGenesis is developing a proprietary cellular platform based on the Mygotic Process™, which generates patient-derived Mygotes™ for regenerative medicine, cell therapy, tissue engineering, and biomanufacturing. Mygotes™ are laboratory produced, autologous, embryonic-like developmental-state cells designed to provide a natural, potent, and scalable starting point for the next era of cellular therapeutic development.

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