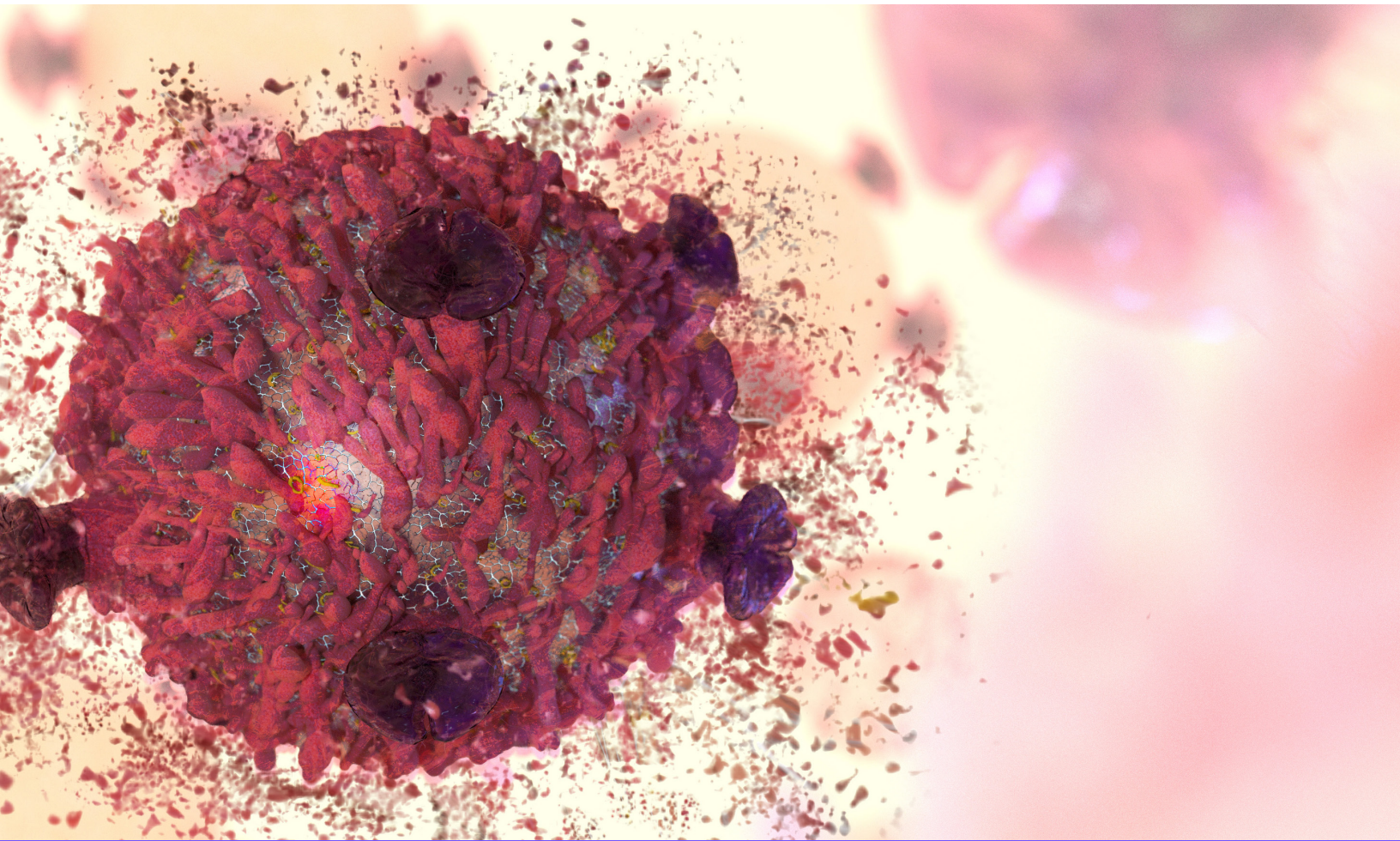# Accelerating Thanokine™-based therapeutics with a modern data infrastructure

INZEN TX

Enhance insight into cell death processes by equipping team members with the ability to track, integrate, and understand the full context of every cell death readout

While cell death marks the end of a single cell, the messages each cell releases as it dies — Thanokines™ — can have contradictory and widespread effects, such as triggering repair processes or prolonging disease. At Inzen Therapeutics, the process of cell death is not the end, but rather the start of therapeutics discovery. Inzen's lead programs are designed to kill tumor cells and direct Thanokines™ from the dying tumor to rewire the microenvironment to generate strong immune responses. There are further indications in fibrosis and regeneration. Analyses by the Data Science team to extract knowledge from a myriad of lab activities lie at the heart of Inzen's efforts. However, like many other startups harnessing complex biology with multiple assays and readouts, Inzen found that integrating wet lab and informatics teams was challenging. They needed to ensure that every sample was tracked and all data harmonized to maximize the reproducibility and reliability of their processes and insights.

CHALLENGES

Integration

Scientists were using different words to describe the same processes and data, slowing data integration and the pace of discovery.

Sample tracking

Without the ability to track samples through the entire experiment lifecycle, scientists couldn't build a complete understanding of the cell of interest.

Simplicity

As a small startup with limited resources, Inzen needed a solution that was intuitive to use and easy to maintain.

KEY RESULTS

100%

adoption with licensed users

2/3

scientists feel Benchling makes data more traceable and searchable, compared to alternatives they would use

9/10

scientist satisfaction with Benchling support

"Benchling has become part of the standard toolkit that many companies want to deploy."

Jake Jaffe, Ph.D, Head of Data Science

The Story

# of employees: 11-50

Industry: Biopharma

Offices: Cambridge, MA

As Inzen Therapeutics began lab operations, one of their top priorities was to implement an electronic lab notebook (ELN) and laboratory information management system (LIMS) solution. They recognized that leaving large amounts of one of their most valuable assets, their data, on individual computers, physical notebooks, myriad thumbdrives, and other disparate locations could lead to that data being easily lost, forgotten, or erased. They asked the other startups in the Flagship Pioneering ecosystem for ELN and LIMS recommendations and received multiple referrals to Benchling as the solution of choice.

Once the decision was made, Inzen's onboarding onto the Benchling platform was a collaborative and streamlined process. They were paired with an Implementation Manager from Benchling who worked with Inzen to design and implement a custom data structure in just three months. Jake Jaffe, head of Data Science at Inzen, was particularly pleased with how helpful and knowledgeable their Implementation Manager was, "[He] totally gets it! He's super patient and willing to work really closely with us. I can easily connect with him on the technical aspects very strongly!"

Now that Benchling has become a part of operations at Inzen, the scientists have greater visibility into all of their data and more confidence in their insights. All of their high-value samples are traceable from the moment they are registered, and the full history of manipulations as well as any downstream samples is visible at a glance, even if they were generated by different scientists working months apart.

In addition, all of the data is now standardized, effortlessly searchable, and easy to pull out of Benchling's data warehouse. As a result, the informatics

team can spin up new analyses with little effort, erasing the need for dead-end searches and tedious data cleaning. As a whole, the company is spending less time and money on unnecessary tasks and focusing more on designing experiments and bringing therapeutics to the clinic.

Jake is already dreaming of what Inzen can build in the future with Benchling as a data foundation. The team is keen on keeping things in a single software solution, so they're exploring ways of creating more customized, interactive visualizations for their data right in Benchling. They're also excited about how working with the Benchling API might open up new avenues for insight. The future for cell death is looking very bright.

"The name of the game in data science is making progress really fast, but not so fast that [scientists] don't write things down. We want to know everything that we ever did, ever. "

Jake Jaffe, Ph.D, Head of Data Science

Benchling Solutions

A controlled vocabulary ensures global searchability and a cohesive understanding across teams

✓ Keyword search allows informaticians to quickly locate Thanokine™ experimental conditions without needing to know exactly where to look.

✓ Clear data linkages across teams allows scientists to connect the dots between Thanokines™, omics data, and functional assay data.

✓ Even if a scientist transitions out of the company, there is virtually no knowledge loss because data is stored in the Cloud rather than personal hard drives, machines, or paper notebooks.

End-to-end sample traceability deepens experimental insights

✓ Ease of data entry has increased due to bulk registration and updates, standardized sample registration fields, and automatic data validation. This has helped decrease time to data entry, minimized errors, and increased traceability.

✓ Each sample's unique identifier allows scientists to track all replicates and downstream samples across different experiments and notebook entries.

✓ The data schema models clear cell-manipulation-to-cell-viability relationships, highlighting which samples to move forward based on experimental outcomes.

Benchling accelerates Inzen's research without significant overhead or maintenance

✓ Discovery through the analysis of large amounts of varied data requires lots of flexibility and iteration. Using controlled vocabulary throughout the entire experimental process allows informaticians to rapidly test hypotheses by quickly spinning up new analyses.

✓ Adoption of Benchling early in the company's life has helped Inzen build a solid data foundation so that critical early results don't go to waste.

✓ The Inzen team saves time on development thanks to Benchling's continuous improvements and additions of features. This way, they can focus on moving the science forward.

www.benchling.com