Today's challenges, tomorrow's breakthroughs

Exploring the opportunities driving Danaher innovation

Innovation at the speed of life™

danaher

Introduction

The foundation for a healthier tomorrow

Across life sciences and diagnostics, there is one problem that unites us all—the status quo is not enough. In many populations and disease states, there are urgent unmet needs and patients left behind. Improving human health around the globe depends on science and technology innovators, the people who can architect solutions that move all of us forward into a healthier tomorrow.

Science is advancing faster than ever, but the path from scientific breakthrough to real-world impact is not easy. Research can take years, setbacks can demand dramatic changes in strategy and taking shortcuts could put patients at risk.

At Danaher, we have the expertise, technology and scale to keep innovation moving. We partner closely with experts in science and technology to take breakthrough science from discovery to delivery. Our innovations drive many aspects of science, but we prioritize four key areas where the combination of our Danaher companies, the Danaher Business System (DBS) and our key partnerships uniquely positions us to drive progress. For each focus area, there is a central challenge that's pushing us to take innovation to the next level.

None of these challenges has an easy answer. Progress demands speed, scale, expertise, the strategic use of emerging technologies and – most importantly – collaboration. But the work matters because when innovation succeeds, the impact is not incremental; it changes the course of human health for billions.

Our focus areas

Explore the critical questions driving Danaher innovation.

Diagnostics

How can we help healthcare providers ensure that patients get the right treatment, for the right disease, at the right time?

Genomic medicine

How do we translate cutting-edge, genomic therapy ideas into realistic solutions that can help more patients, more quickly than is currently possible?

Biomanufacturing

How can we manufacture high-quality, innovative therapies in a rapid, sustainable and secure manner?

Life sciences

How can we improve the translation of groundbreaking research into meaningful clinical impact?

Focus area

Diagnostics

How can we help healthcare providers ensure that patients get the right treatment, for the right disease, at the right time?

Diagnosis is one of the most critical moments in a patient's journey, shaping care, treatment plans and overall costs. Yet, the process of getting an accurate diagnosis can be an uphill battle. In some cases, diagnostic testing can be slow, expensive or hard to access for patients. In others, diagnostics are inaccurate or provide only vague answers. Across many disease states, there is work to be done to develop diagnostics that detect diseases in a timely manner, with accuracy and in a way that encourages access.

Time and time again, we see that diagnostic innovation is worth the investment, potentially improving outcomes, influencing public health initiatives and shaping the way the whole industry approaches a disease.[1] Yet innovating in the field of diagnostics entails several key challenges. Accurate, timely diagnostics require research into new technologies, the identification of the right biomarkers or targets and the resources necessary to push this research through the development pipeline. For a single diagnostic, each of these steps can take years of time and funding. For rare diseases or conditions with smaller populations, this can stifle innovation.

Yet, developing a diagnostic is just the first chapter of the story. Getting a test to market requires buy-in from stakeholders across the industry. Regulatory agencies must approve diagnostics for use in clinical settings. Payers must buy-in to ensure patients' costs are covered. Finally, health systems and physicians must understand and trust the diagnostic enough to put it into practice.

To push through these barriers, diagnostic innovators need champions like Danaher to be both partners and connective tissue between stakeholders. Through strategic partnerships such as the Danaher Beacons, we are supporting cutting-edge research into diagnostic solutions that can change the health landscape.[2] Meanwhile, Danaher businesses bring the resources needed to support the commercialization and utilization of new diagnostic tools. We keep an eye on the big picture while focusing on the small details that dramatically increase uptake, such as simplifying workflows and integration with current tools.

Where others see problems, we see countless possibilities to shift the status quo. By working together, we can take a multi-pronged approach to translate research into real impacts across a variety of disease states and patient populations. Together, we believe in a future where healthcare providers have the tools they need to diagnose with unmatched speed and precision.

1. World Health Organization. Diagnostics. Accessed September 5, 2025. https://www.who.int/health-topics/diagnostics#tab=tab_1
2. https://www.danaher.com/danaher-beacons

Diagnostics in practice

Exploring neurodegenerative diagnostics

After decades of work, the scientific community is finally seeing success with disease-modifying treatments for neurodegenerative diseases such as Alzheimer's. We've come a long way, but there is still space to do more to improve care for dementia patients, including diagnostics. Current tools for diagnosing dementia rely on lumbar punctures and PET scans, methods that require specialized equipment, staff with specific training and increase stress for already vulnerable patients.

Over the next two decades, the burden of chronic neurodegenerative diseases is expected to double, highlighting a critical need—blood-based neurodegenerative diagnostics that can prepare us for this rising "silver tsunami."[3]

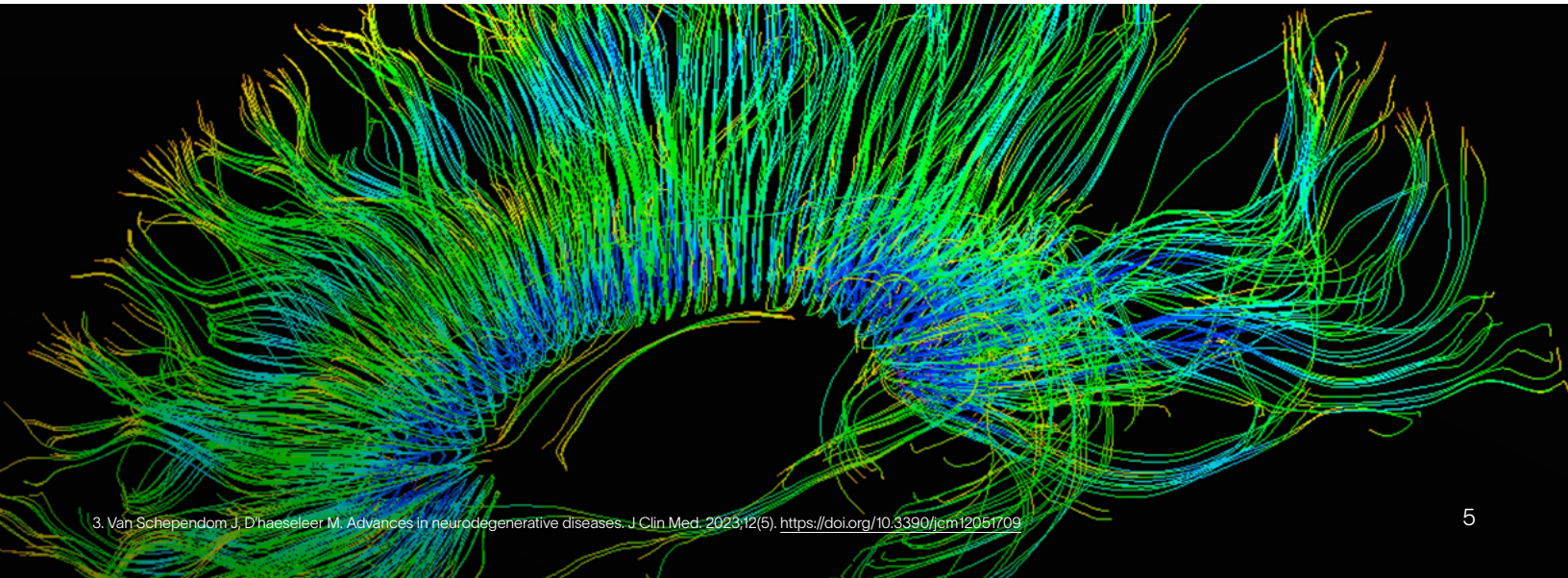
Three critical questions driving our neurodegenerative diagnostics efforts

1. How can we democratize neurodegenerative diagnostics to ensure access for the millions of aging patients who will need them?

2. How can we ensure we identify as many real cases as possible, without over diagnosing patients?

3. Which biomarker combination will allow us to detect disease progression and assist in the development of effective therapies?

Take a deeper look →



3. Van Schependom J, D'haeseleer M. Advances in neurodegenerative diseases. J Clin Med. 2023;12(5). https://doi.org/10.3390/jcm12051709

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Innovation requires commitment and an understanding that there are more questions than answers. The right question moves you forward and creates interest among scientists. The pioneers in this space aren't worried about questions—they seek them out."

Nicole Selenko-Gebauer MD, MBA
Group Vice President & Chief Innovation Officer, Danaher Diagnostics

Working at the cutting edge

Our Danaher Beacons program invests in pioneering academic research, collaborating with top researchers and institutions.[2] In the field of diagnostics, our Beacons are leveraging unique expertise to advance research into undiscovered biomarkers and new diagnostic technologies.

ADC companion diagnostics

Yale and University of Pennsylvania

Establishing a quantitative companion diagnostic test to determine which patients can benefit from next-generation antibody-drug conjugates.

Plasma proteomics profiling study

Washington University

Completing a large-scale plasma proteomics profiling study to identify a range of potential additional biomarkers for Alzheimer's disease.

Sepsis subtyping innovation

Oxford University

Utilizing rapid molecular diagnostic technologies to develop a test to pinpoint different subtypes of sepsis and enable precision medicine care for sepsis.

2. https://www.danaher.com/danaher-beacons

Focus area

Genomic medicine

How do we translate cutting-edge, genomic therapy ideas into realistic solutions that can help more patients, more quickly than is currently possible?

We're at an inflection point in genomic medicine. The groundbreaking technologies that can address the root cause of disease are here. But using these therapies to treat the millions of real patients suffering from diseases caused by genetic mutations is still in its infancy. Translating these innovations into reliable and realistic patient solutions will require deep collaboration and a connected ecosystem that spans from the lab to the healthcare provider's office.

To start, we need to streamline how we design, develop and manufacture these therapies. We must also work with regulatory agencies to create new expedited pathways for approval. Personalized treatments, like gene editing therapies, are hard to produce and even harder to get to patients in need. Approved treatments are notorious for their expensive costs, largely due to the labor-intensive and risky nature of their development.[4] Every step we can take toward lowering the costs associated with creating genomic therapies is a step toward a more accessible therapy landscape.

Add to this complex puzzle the reality that the genomic medicine industry is constantly changing. There is no industry-wide model or blueprint for developers to follow. Instead, they often create solutions from scratch and problem-solve on their own. How do you approach clinical trials for a drug made specifically for one person? How can you address the burden of proof for both efficacy and safety if no one with this specific genetic mutation has ever been treated before? What do you do when delays could cost the life of a patient? For a biopharmaceutical company developing a gene editing therapy for a rare disease, getting a therapy through development and approval takes incredible resources and leaves little room for error.

At Danaher, we believe that collaboration is essential to solving genomic medicine's toughest challenges. This requires trust, partnership and curiosity to explore new solutions to complex problems. We work side-by-side with our partners, mobilizing our network of experts and operating companies to connect across the industry, from academia to regulatory bodies.

Genomic medicine has repeatedly benefited from change-makers and innovators with the vision to revolutionize the field. Danaher offers a connected ecosystem of innovators who share a desire to drive industry-wide progress. We pair our scientific expertise with a relentless drive for progress and operational excellence made possible by the Danaher Business System (DBS). Genomic medicine is an exciting new branch of medicine that requires bold action and collaboration to unlock its full potential. At Danaher, we're committed to solving the hardest problems – together – so these breakthroughs can benefit everyone.

4. Wong, C.H., Li, D., Wang, N. et al. The estimated annual financial impact of gene therapy in the United States. Gene Ther 30, 761–773 (2023). https://doi.org/10.1038/s41434-023-00419-9

Genomic medicine in practice

Exploring gene editing therapies

Gene editing has the potential to change the treatment landscape for rare diseases. Though individually uncommon, rare diseases are collectively pervasive and are estimated to affect 300 million people worldwide.[5] With so many of these rare diseases caused by genetic mutations, gene editing technologies like CRISPR can do more than treat symptoms—they can create cures.

While the number of people who could benefit from gene editing therapies is staggering, bold action is needed to unlock their full potential.

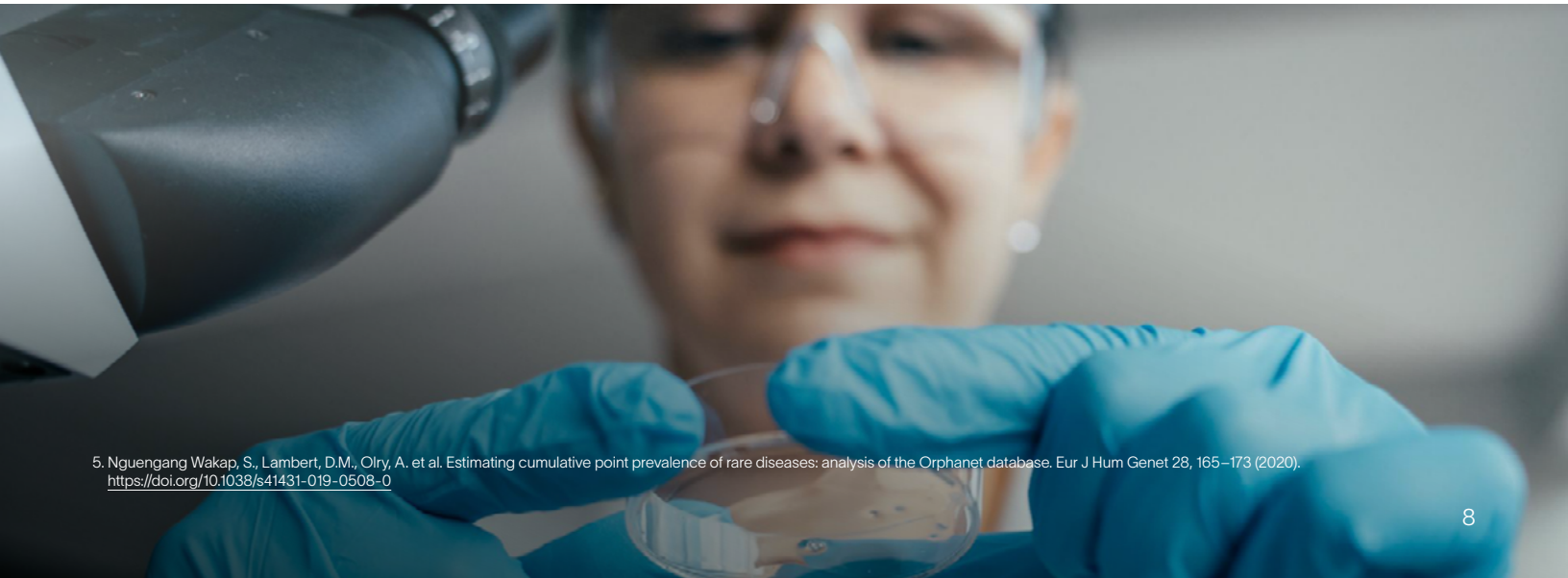
Three critical questions driving our gene editing therapy editing efforts

1. How do we bring together the top minds from academia, industry and government to ensure the success of gene editing therapies?

2. Can we create a toolkit that accelerates the path to regulatory approval and allows innovators to move quickly?

3. How do we help patients get reliable and affordable access to gene therapies?

Take a deeper look →



5. Nguengang Wakap, S., Lambert, D.M., Olry, A. et al. Estimating cumulative point prevalence of rare diseases: analysis of the Orphanet database. Eur J Hum Genet 28, 165–173 (2020). https://doi.org/10.1038/s41431-019-0508-0

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The science is there. The tools are there. But the ability to execute on the promise of genomic medicine requires collaboration across multiple partners. Danaher is working at the center, connecting the central nodes of this ecosystem to make gene editing a reality."

Sadik Kassim, PhD, Chief Science Officer & Chief Technology Officer, Danaher
Omic Solutions and Genomic Medicines

Major steps toward transformative treatment

Personalized CRISPR therapies at scale

Building on the success of the first patient to receive a personalized CRISPR gene editing therapy, Danaher is proud to provide the essential manufacturing infrastructure for the Center for Pediatric CRISPR Cures, launched by the Chan Zuckerberg Initiative and the Innovative Genomics Institute.[6] Together, we're working toward building a platform for delivering clinical-grade gene editing therapies at scale.

A new day for cell therapies

Development costs of personalized cell-based therapies are a major limiting factor. Through a grant awarded by the Advanced Research Projects Agency for Health (ARPA-H), a team led by Danaher Omics Solutions and Genomic Medicines CTO, Dr. Sadik Kassim, is working to decrease the costs of CAR-T therapy for solid tumors.

6. Danaher. Danaher, IGI, CZI Unite for CRISPR Breakthroughs. Accessed September 18, 2025 https://www.danaher.com/danaher-igi-czi-unite-crispr-breakthroughs

Focus area

Biomanufacturing

How can we manufacture high-quality, innovative therapies in a rapid, sustainable and secure manner?

With great scientific innovation comes urgency—to get transformative therapies approved and into the hands of providers and patients. Biomanufacturing is an integral part of this journey, as every approved therapy needs to be commercialized and manufactured at scale to reach its maximum potential. As we enter this new stage of medicine, involving personalized medicine and complex biologics, we must find biomanufacturing solutions that can advance and accelerate the journey therapeutics take through commercialization.

Biomanufacturing processes are traditionally designed to efficiently and safely produce therapies at large scales, often with millions of doses in a single batch. Many traditional therapies, such as small molecules, are well-suited for this standardized approach. However, next-generation therapeutics, such as cell and gene therapies, are more complex and personalized, sometimes requiring a single dose to be manufactured per batch. In these circumstances, getting batches produced and reviewed through the time-intensive QA procedures can dramatically impact the timely delivery of therapies to patients.

Updating biomanufacturing processes to meet this new type of therapy doesn't just require updates to workflows; it necessitates a total paradigm shift from high-volume, standardized manufacturing to flexible, patient-centered manufacturing.

Fortunately, we have reached a point where critical manufacturing technologies and digital tools have evolved sufficiently to play a role in this shift, including enabling a faster release of batches. From process analytical technologies (PAT), which enable analysis and optimization of closed manufacturing processes with a previously unimaginable level of visibility, to automated systems that can maximize the value of manufacturing data and streamline tasks like process documentation and batch records—we have the technologies we need to revolutionize biomanufacturing. We just need to invest the time, resources and energy into making it happen.

Danaher is focused on shepherding cutting-edge medicines from discovery to delivery. Through a combination of scientific insight, operational excellence and a drive for progress, we are working with our partners across the industry to push beyond biomanufacturing improvements that are merely temporary—we're thinking about the future. We believe we can establish innovative processes and standards that will prepare us to commercialize the next generations of therapeutics, accelerating their impact and ensuring the latest treatment options become available to patients.

Biomanufacturing in practice

Improving process intensification

Bioprocessing – using living cells or biological systems to make useful products such as biologic medicines at scale – has grown more complex than ever.

Conventional production models are under strain as operational, technical and economic constraints inflate costs and hinder progress.

At the same time, biomanufacturers are under pressure to cut resource consumption, drive supply and meet sustainability goals. Incremental improvement won't be enough.

Truly efficient and sustainable bioprocessing will require a transformation in how systems are designed, scaled, operated and optimized.

Three critical priorities driving our process intensification efforts

1. Creating innovative new technologies that maximize cell culture productivity, including cell growth, density, viability and productivity per liter.

2. Develop a comprehensive, modular kit that enables continuous downstream processing for any end goal product.

3. Integrate digital technologies that provide meaningfully predictive information to support the complexity of manufacturing on a global scale.

Take a deeper look →

"Biomanufacturers need more than just a supplier; they need true collaboration. Danaher brings not just the products and the technology, but also the investment, scale and global expertise to best meet the needs of those manufacturing these important medicines."

Beate Mueller-Tiemann, Chief Technology Officer
Cytiva

Driving the biomanufacturing revolution

Through our operating company, Cytiva, we are helping ensure that manufacturing development and capabilities keep pace with the technology.[7]

Closed processing

Sensor monitoring and automation can facilitate control of processes in closed systems while keeping contaminants out, reducing the risk of batch failure.

Specialized software

Streamlining manufacturing with automation while reducing operator touchpoints and labor hours can increase productivity while reducing the potential for human error.

Strategically single-use

Intentional use of single-use kits can enable flexibility across processes and patients.

7. Cytiva. SefiaTM cell therapy manufacturing platform. Published online January 6, 2024:10. Accessed September 14, 2025. https://cdn.cytivalifesciences.com/api/public/content/VMA5B8uCT1O8uElH5YXswQ-pdf

Focus area

Life sciences

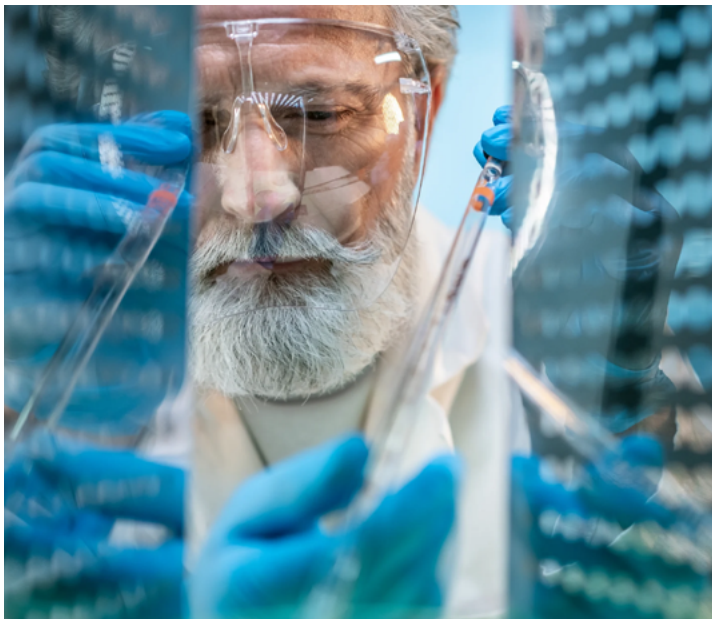
How can we improve the translation of ground-breaking research into meaningful clinical impact?

We are in the midst of a scientific revolution across the life sciences. As breakthroughs occur in labs worldwide, Danaher is working to address one of the biggest challenges in life science innovation: translating discoveries into real-world impact. This challenge is particularly notable in therapeutic development, where new ideas often get lost in the gap between research and clinical application. The timely delivery of affordable and safe therapies requires collaboration and additional tools to ensure new discoveries don't occur in a silo and are successfully commercialized so they can benefit patients.

Scientific discoveries begin in the lab as researchers develop a deeper understanding of disease processes. This requires research tools that deliver consistent outputs in labs around the globe, enhancing scientists' confidence in the reproducibility of their data. For example, innovations in microscopy are helping us reliably capture images in a quantifiable manner that ensures any variability comes from true differences between samples and experiments. Furthermore, state-of-the-art microscopy must be able to incorporate multiple data modalities in this era of multiomic research.

Translatable clinical models that provide high-fidelity insights, thereby enhancing the likelihood of clinical trial success, are another crucial element in bringing therapies to patients. Organoids are a particularly promising example for improved disease modeling. However, developing the tools to create these models is a complex undertaking. Not only must the models be developed and validated, but they must also be scaled to accommodate the high-throughput nature of drug development.

Behind the entire drug development process is the need for efficiency that adapts slow and cumbersome workflows to the next generation of technology. This includes leveraging combined data modalities and AI to gain insights without manually sifting through the vast amount of data researchers generate. Together, better clinical models and AI are also helping drug developers plan for commercialization earlier in the process.



Whether we are working to solve the inherently fragmented nature of the innovation pipeline or integrate new data technologies, Danaher is here to support researchers with the partnership necessary to overcome challenges. By equipping innovators with tools and workflows that accelerate discovery, enhance efficiency and help streamline the path from the lab to the clinic, Danaher empowers the global scientific community to move faster and think bigger. Together with our partners, we're closing the gap between possibility and patient impact—transforming the pace and potential of innovation so that new therapies can reach those who need them most.

Life sciences in practice

Spatial biology and drug development

Spatial biology has the potential to improve the accuracy and predictive capabilities of pre-clinical models—a critical area of improvement that could help increase the success rate of treatments advancing into clinical trials. For example, three-dimensional organoids, while challenging to grow at scale, create a model that is much better at mimicking human physiology in the lab than traditional cell monolayers or animal models. Danaher is lending its expertise and resources to this area of development, enabling us to provide patients and companies with a safer and more effective drug development process.

Three critical priorities driving our spatial biology efforts:

1 How can we make organoid models a reliable and scalable resource for drug development?

2 How can we analyze these 3D organoids and live cell systems so that we can gain the necessary depth of information needed to advance scientific understanding?

3 How can we use AI to enhance the predictive power of these organoids, and thus improve the success rate of clinical trials?

Take a deeper look →

Taking spatial to the next dimension

Collaboration across academia and industry is essential to meaningful progress. As Danaher works toward new innovations in the spatial biology domain, partnerships are at the center of everything we do.

Smart microscopy

Stanford University

Leveraging the latest findings in spatial biology, coupled with cutting-edge AI, to make it possible to screen more complex cellular systems.

Conclusion

From scientific challenge to human progress

At Danaher, we envision a better future for human health and are working tirelessly to make it a reality. To translate breakthroughs into advancements that improve lives, we need collaboration and partnerships that help bring innovation to patients in an accessible and safe manner. From diagnostics and genomic medicine to bioprocessing and the broader life sciences, we see big problems as opportunities—for growth, innovation and impact.

Working across industries is a challenge, but Danaher serves as the central hub connecting disparate scientific silos. Through our robust network of Danaher businesses and operational excellence made possible by the Danaher Business System (DBS), along with our strategic partnerships like Beacons, we're bringing academia, industry and patients together to answer questions that move medicine forward. Propelled by scientific excellence and continuous improvement, we're providing the tools, workflows and expertise to help researchers solve the problems that have plagued us for generations, uncovering the breakthroughs that can change the future of science and medicine.

Danaher is here to expand the boundaries of what's possible, bringing the will and perseverance to push for breakthroughs in every field. Together, we're creating lasting impact and innovating at the speed of life.

Danaher
2200 Pensylvania Ave, N.W., Suite 800W
Washington, D.C. 20037-1701