

# The Astellas Way

## Collaborative Partnerships Are Critical to Addressing Unmet Medical Needs

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The biopharmaceutical R&D enterprise is in the midst of a period of significant change and challenge. Over the last decade, biopharmaceutical companies have delivered tremendous advances, including the first immuno-oncology therapies, curative therapies for Hepatitis C, and the first CAR-T cell therapies. Interestingly, the majority of the new drug approvals over the last decade were discovered by smaller biotechnology firms, not larger pharmaceutical companies.

Major pharmaceutical companies have continued to see declines in R&D productivity due to challenges such as rising development costs. Compounding the problem, the cost of acquiring innovative products from biotechs comes at a significant premium. With similar pressures facing all of the major pharmaceutical companies, the competition has driven the prices for many biotech acquisitions dramatically higher.

These global pressures have forced Astellas as well as other pharmaceutical companies to reevaluate our R&D model. In the past, the bulk of candidates entering clinical development came from our laboratories in Tsukuba, Japan. Increasingly, we are looking to embrace an “open innovation” approach, meaning that we are striving to create a variety of collaborative partnerships to bring the best science into the portfolio.

For example, we established some unique partnerships with the biotech companies Potenza Therapeutics and Mitobridge. Our exclusive R&D collaboration with Potenza Therapeutics is generating advances in immuno-oncology therapies, targeting immune checkpoint pathways, co-stimulatory signals, and regulatory T-cells. These may lead to groundbreaking production of new cancer treatments. The first compound from this collaboration has entered Phase 1 testing and is being advanced by the Astellas Development team.

Our exclusive R&D collaboration with Mitobridge is generating advances in mitochondrial biology with an initial clinical candidate that targets Duchenne Muscular Dystrophy. The success of this R&D collaboration has led Astellas to acquire Mitobridge, which will now operate as an innovation hub within our Drug Discovery Research organization.

The intent of these smaller innovation hubs is to have scientists focused in a particular biology (e.g., mitochondria) or technology (e.g., cell therapy) located in close proximity to academic experts and collaborators. Other examples include the Astellas Institute of Regenerative Medicine (AIRM), which focuses on cell and regenerative therapies at its facilities in the Boston area, and the Astellas Research Institute of America (ARIA), which moved to La Jolla, California and is working on central nervous system conditions with a number of academic collaborators in the nearby institutions.

Similarly, we have established partnerships with esteemed institutions such as the Dana-Farber Cancer Center and University of Texas M.D. Anderson Cancer Center on novel targets in oncology.

These innovation hubs, and collaborative partnerships with academia and biotechs are helping to extend and accelerate our innovative platform – but not without potential challenges. Biopharmaceutical science is incredibly complex and the odds of success for any one project are low. Inevitable obstacles, while disappointing for us and the physicians and trial volunteers who make clinical research possible, reflect the hard reality of translational research.

Rather than let the potential for scientific setbacks and buffeting winds of change deter us from our core mission, we learn, we persevere and we rely more strongly than ever on the philosophies and approaches that continue to lead to positive patient outcomes. If we continue to keep the patient as our guiding focus and utilize the best science from our collaborative partnerships, we will fulfill our mission – turn innovative science into value for patients.