May 6, 2025

Under Secretary Jeffrey Kessler
Bureau of Industry and Security
U.S. Department of Commerce
1401 Constitution Ave NW
Washington, DC 20230

Submitted via http://www.regulations.gov

RE: Notice of Request for Public Comments on Section 232 National Security Investigation of Imports of Pharmaceuticals and Pharmaceutical Ingredients (Docket No. 250414-0065, XRIN 0694-XC120)

Dear Under Secretary Kessler:

The Alliance for Regenerative Medicine ("ARM") appreciates the opportunity to provide input on the Department of Commerce ("the Department") request for public comments (the "RFI") through the Bureau of Industry and Security (BIS) Office of Strategic Industries and Economic Security, informing its investigation on under section 232 of the Trade Expansion Act of 1962 regarding the effects on the national security of imports of pharmaceuticals and pharmaceutical ingredients.[1]

The Alliance for Regenerative Medicine (ARM) is the leading international advocacy organization championing the benefits of engineered cell therapies and genetic medicines for patients, healthcare systems, and society. As a community, ARM builds the future of medicine by convening the sector, facilitating influential exchanges on policies and practices, and advancing the narrative with data and analysis. We actively engage key stakeholders to enable the development of advanced therapies and to modernize healthcare systems so that patients benefit from durable, potentially curative treatments. As the global voice of the sector, we represent more than 400 members across 25 countries, including emerging and established biotechnology companies, academic and medical research institutions, and patient organizations.

I. Overview

ARM appreciates the Department of Commerce and this Administration's commitment to understanding the complex global supply chains that support both research and development for pharmaceuticals and patients' access to approved products that can transform and save lives. Data gathered from a survey of ARM member representatives found that more than 90 percent of

[1] 90 Fed. Reg. 15,951 (Apr. 16, 2025).

respondents are concerned by the negative impact that potential tariffs on pharmaceuticals and pharmaceutical ingredients will have on their manufacturing costs.

This letter outlines input from ARM and its members regarding several key aspects of the RFI:

- Potential tariffs on imports of finished pharmaceutical products and pharmaceutical ingredients to the United States risks undermining and slowing access for U.S. patients to cell and gene therapies ("CGTs"), which represent durable treatments and potential cures for devastating diseases with high unmet needs.
- Potential tariffs on these goods will slow biotechnology innovation in the United States, including in CGT research and development, where the United States has historically been a leader.
- The Department should consider a phased or delayed approach to implementing any tariffs to permit time for investments to occur in onshoring production. The Department should also consider whether exempting certain categories of imported goods, such as low-volume imports, may prevent particularly harmful impacts of tariffs while still accomplishing the Administration's goals. Similarly, exempting particular nations or blocs of nations, such as the European Union, may reduce the impacts of tariffs while addressing U.S. reliance on adversary countries. Finally, any tariff policy should include an exemption process for imports that cannot be reasonably obtained in the United States, similar to what the first Trump Administration implemented during the initial stages of Section 232 tariffs for steel and aluminum products.

II. Tariff Impact on CGT Patients in the United States

In responding to the RFI's request for input regarding "the role of foreign supply chains, particularly of major exporters, in meeting United States demand for pharmaceuticals and pharmaceutical ingredients,"[2] it is important to detail the role that CGTs play in the healthcare system and how both their manufacturing and use differs from prescription drugs in general.

In recent years, numerous life-changing and often life-saving CGTs—45 as of April 2025—have been approved by the U.S. Food and Drug Administration (FDA) for some of the most difficult-to-treat conditions affecting both children and adults. These include cerebral adrenoleukodystrophy, beta thalassemia, spinal muscular atrophy, hemophilia A and B, Duchenne muscular dystrophy, sickle cell disease, and various forms of cancer. These often one-time administered, durable, curative therapies can bring decades or a lifetime of benefits to patients who otherwise face death or serious disability. The Trump Administration has recognized the value of these treatments and the importance of securing patient access to them through its recently announced support for the Cell and Gene Therapy Access Model at the Center for Medicare and Medicaid Innovation. As of the end of 2024, there were 2,936 regenerative medicine and advanced therapy developers worldwide sponsoring 1,975 clinical trials across dozens of indications, including rare monogenetic diseases, oncology, cardiovascular, central nervous system, musculoskeletal, metabolic disorders, ophthalmological disorders, and more.[3]

[2] *Id.*

[3] *See* https://alliancerm.org/wp-content/uploads/2025/02/Developers-2024-Final.pdf, https://alliancerm.org/wp-content/uploads/2025/02/Trials-2024-Final.pdf.

Tariffs on finished CGT products and the necessary ingredients will have costly and unpredictable effects on the costs of manufacturing and the availability of both finished drugs and key inputs for patients. While all pharmaceutical manufacturing is a complex and highly regulated endeavor, manufacturing CGTs and other regenerative medicines is especially complex. Even within the category of CGTs and regenerative medicines, there are numerous categories of therapies, each presenting specific challenges that distinguish these fundamentally different products from commodity goods. For instance, gene therapies often depend on delivery by viral vectors, which are expensive and time-consuming to produce and characterize. Meanwhile, autologous cell therapies rely on collecting a patient's own cells at a clinical facility and then modifying them to produce the desired therapeutic effect before being re-administered to the patient. From start to finish, this process can take weeks, and the fragile nature of these cells and the resulting product requires seamless transfer of materials between the clinical site, manufacturers, and other partners.

Manufacturers of such therapies often rely on a single source supplier for critical equipment and materials, or a single processor of autologous cells. This reliance introduces additional risk and potential bottlenecks in the development process that cannot be mitigated through a tariff policy designed to encourage onshoring. The RFI seeks comment specifically on "the concentration of United States imports of pharmaceuticals and pharmaceutical ingredients from a small number of suppliers and the associated risks." In the case of procuring highly specialized ingredients for CGTs, there is inevitably a smaller number of suppliers, even worldwide, let alone within the United States. As a result, tariffs may destabilize already fragile supply chains for the ingredients needed for CGTs.

The risks of unpredictable and unintended effects of tariffs on CGT development and manufacturing are exacerbated by the very small scale at which these products are made. It is not uncommon for a manufacturer of a gene therapy to produce a therapy for fewer than 100 patients, or even fewer than 10 patients, in a given year. Tariffs will introduce new unpredictability and added costs for such a manufacturer in the United States that produces therapies for such a small patient population and cannot readily seek out or fund alternative sources for its key ingredients. To ensure patient access, manufacturers must have confidence that they can secure ingredients from the widest possible set of reliable sources, at a predictable cost. For various reasons, these sources may not be located in the United States. Finally, the small patient population who may be served in a given year also makes a manufacturer's demand for ingredients highly variable, further underscoring the need for manufacturers to be able to source ingredients from any suppliers can meet these needs.

Another unique challenge for manufacturers of CGTs is that manufacturing of these products is often time-critical. For instance, once cells have been gathered from a patient at a clinical facility to produce an autologous gene therapy, the timeframe for production and administration to the patient is extremely narrow and time-sensitive because the product is custom-produced for the specific patient. Furthermore, from a patient perspective, the collection of cells for the production of such a product often comes after months or years of assessing whether the treatment is suitable for the patient and whether the treatment is covered by insurance. These tight timeframes require

long-term predictability in partnerships with contract manufacturers and suppliers, and any tariff regime would introduce new uncertainty into this process.

Although the number of patients served by these therapies may be small, it is crucial to emphasize that CGTs can be completely transformative medicines, saving patients from lifelong debilitating conditions that may cost the healthcare system hundreds of thousands of dollars per year and millions of dollars over the course of a patient's lifetime.[4] Disrupting access to these therapies will cut off some of the most vulnerable and complex patients in our healthcare system from life-changing treatment.

III. Tariff Impact on U.S. Leadership in CGT Innovation

CGTs and other regenerative medicines represent one of the most promising, cutting-edge areas of biotechnology innovation, and over the past several decades, the United States has played a leading role in discovery and commercialization of these products. North America is home to more regenerative medicine and advanced therapy developers than any other region, accounting for 1,230 of the 2,936 developers worldwide and 831 of the 1,975 currently ongoing clinical trials globally.[5] The United States also plays a significant role in exporting finished CGTs to the rest of the world; nearly 40 percent of respondents to ARM's member survey indicated that they export CGT drug substance or drug product outside of the United States.

In many cases, these developers do rely on sourcing ingredients and key starting materials (KSMs) in the United States, but often U.S.-based developers rely on materials from abroad. Our survey of ARM members found that approximately 35 percent of respondents import KSMs from abroad into the United States for manufacturing. Given the issues discussed above regarding the highly customized nature of CGTs and the typically low volume of such products, developing domestic sources of ingredients or in-house capabilities is infeasible at this scale, which undermines the goal of a tariff to encourage the onshoring of production.

In other cases, tariffs would present a significant cost and a meaningful barrier for a different aspect of the biotechnology economy in the United States. Because ingredients for CGTs, such as viral vectors or plasmids, are often sophisticated and complex goods, there are U.S. sources for such materials—but key steps in the CGT manufacturing process occur in other countries, especially Canada. In such arrangements, potential pharmaceutical tariffs may apply to the processed materials or finished drug products imported back into the United States, increasing costs for manufacturers that have sought out specialized partners in neighboring, allied nations. Considering the very small volume of services involved for CGTs, potential tariffs do not provide a meaningful incentive for manufacturers to offer these services in the United States.

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[4] E.g., severe sickle cell disease can carry lifetime medical costs of $4-6 million, while severe hemophilia B can carry costs of $20-plus million. See https://alliancerm.org/wp-content/uploads/2024/08/August-2024-Sector-Snapshot_Final.pdf

[5] See https://alliancerm.org/wp-content/uploads/2025/02/Developers-2024-Final.pdf, https://alliancerm.org/wp-content/uploads/2025/02/Trials-2024-Final.pdf.

It is also important to note that securing domestic sources of ingredients is an even greater challenge for CGT developers that do not yet have an approved product, which represents the vast majority of CGT developers. Such companies rely on investor capital, without meaningful commercial cashflows, to produce investigative products needed for clinical trials. Significantly increasing the costs of ingredients for these companies will undermine the ability of these companies to advance toward an approved product, harming their ability to compete with developers in other countries pursuing similar goals. Furthermore, companies without an approved product that would face these challenges are not large pharmaceutical manufacturers but rather small companies (often with fewer than 100 full-time employees) or academic institutions, so they often lack organizational capacity to seek out or finance alternative suppliers in the United States.

IV. Recommendations

As noted above, tariffs on pharmaceuticals, pharmaceutical ingredients, and their derivative products would pose a significant challenge for CGT developers and manufacturers. However, these impacts could be mitigated by adopting a more targeted approach to the imposition of tariffs, similar to the approach the first Trump Administration pursued during its initial implementation of steel and aluminum tariffs under Section 232.

Delayed Implementation and Comprehensive Approach: Any effective approach to strengthening U.S. pharmaceutical manufacturing will be a long-term effort, meaning that the Department should consider delaying or phasing in any potential tariffs to provide time for firms to seek out U.S.-based alternatives for manufacturing and materials (as, for instance, the Trump Administration has pursued with recent implementation of automobile tariffs[6]). One approach to supporting manufacturers choosing to make such investments, which could be accomplished administratively, would be to provide credits against or exemptions from tariffs up to a certain amount of pharmaceutical imports based on new commitments companies make to invest in domestic manufacturing. The Administration should also consider maximizing flexibilities at other agencies to support such investments, such as expediting environmental and regulatory review of new manufacturing investments. More broadly, U.S.-based manufacturing of CGTs, and investments in such manufacturing, has been growing significantly in recent years, but growth in such capacity is limited by a number of factors, including not just typical pharmaceutical manufacturing constraints like financing, permitting, and specialized construction, but also highly specialized skills that are not available in many parts of the United States, as ARM detailed in a 2023 report.[7] Any effort to bring more manufacturing of CGTs to the United States will require innovative approaches to supporting workforce training, including public-private partnerships that may benefit from support from the Trump Administration.

Exemptions for Low-Volume Imports: Because CGTs are often curative or otherwise provided in a

[6] Amendments to Adjusting Imports of Automobiles and Automobile Parts into the United States, available at: https://www.whitehouse.gov/presidential-actions/2025/04/amendments-to-adjusting-imports-of-automobiles-and-automobile-parts-into-the-united-states/.

[7] https://alliancerm.org/wp-content/uploads/2023/03/ARM-Workforce-Gap-Analysis.pdf

one-time dose, imports of these products and related ingredients are much lower volume than pharmaceuticals that are taken over the course of years or an entire lifetime for chronic illnesses. In many cases, CGTs and other regenerative medicines are also low-volume products because they treat rare diseases—of the 1,975 clinical trials currently underway, 700, or 35 percent, are exclusively for rare conditions, and many others are for both prevalent and rare conditions. Reshoring manufacturing of a very small-scale manufacturing process, or an ingredient needed in the United States in only limited quantities, would not make a significant impact on the volume of pharmaceutical imports to the United States. In that light, the Department should consider exempting from any pharmaceutical tariffs ingredients or finished products that are imported in very low volumes.

Clarifying Exemption of Investigational Products: Following implementation of the Product Development and Testing Act of 2000, the United States has generally allowed the use of the Harmonized Tariff Schedule of the United States (HTSUS) code for prototypes (9817.85.01) to allow the duty-free import of finished investigative drug products,[8] it is not clear how this exemption will figure into potential pharmaceutical tariffs under Section 232 and the related reciprocal tariff regime that carves out pharmaceutical products. To protect the ability of U.S. companies to engage in innovative research, the Department should continue to permit duty-free importation of investigational drugs. Further, the Department should extend this treatment to ingredients that manufacturers use to produce investigational products, creating a new HTSUS code for such imports as necessary. Protecting the ability of U.S.-based companies to secure the most flexible and lowest-cost sources of materials for investigative products will serve the purposes of any broader tariff policy by enabling these companies to conduct research and development activities at a sustainable cost before their product has reached the commercial market.

Exemptions for Allied Nations: Due to the complex manufacturing of CGTs, the primary sources of imports for finished products or ingredients are advanced, allied nations such as members of the European Union, Japan, and Canada, which pose limited national security risk. Therefore, we encourage the Department to exempt nations such as Canada, European Union members, and Japan from any tariffs or restrictions.

Exclusions Process: As detailed above, CGT manufacturers rely on a wide array of complex inputs for manufacturing their products, and in some cases, they require these inputs in very small amounts due to the limited number of finished products they produce. In many cases, manufacturers may not be able to secure reliable alternative suppliers beyond those they currently use. We encourage the Department, in developing any potential tariff policy, to establish an exclusions process that acknowledges that certain ingredients and capabilities are not feasibly available in the United States and therefore tariffs on such products or ingredients will not serve the purposes of the broader tariff policy.

[8] 69 Fed. Reg. 63445.

V. Conclusion

We thank the Department for the opportunity to offer comments and are prepared to offer further input as the Section 232 investigation proceeds. We appreciate the Administration's interest in supporting innovation in biotechnology and we stand ready to work with the Administration to ensure the United States remains a leading place for pharmaceutical innovation to occur.

Please feel free to Michael Lehmicke, Senior Vice President, Scientific Affairs at mlehmicke@alliancerm.org with questions.

Sincerely,

Timothy D. Hunt

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