

ASGCT Response to NINDS Draft Strategic Plan

Full NINDS draft strategic plan: https://www.ninds.nih.gov/sites/default/files/draft_2021-2026_ninds_strategic_plan_508c.pdf

The American Society of Gene & Cell Therapy (ASGCT) appreciates this opportunity to provide input on NINDS' draft strategic plan. ASGCT is a nonprofit professional membership organization comprised of more than 4,500 scientists, physicians, and other professionals working in gene and cell therapy in settings such as universities, hospitals, and biotechnology companies. The mission of the Society is to advance knowledge, awareness, and education leading to the discovery and clinical application of genetic and cellular therapies to alleviate human disease.

ASGCT appreciates the acknowledgment in the Message from the Directors of the significance of the development of a gene therapy for infantile spinal muscular atrophy as a remarkable new approach to treating neurological conditions, and we respectfully suggest using language such as this in lieu of "a miracle gene therapy," to facilitate public understanding. In addition, we are grateful that this message highlights the burden of hundreds of genetic neurological disorders, many of which affect infants and children, which have known gene mutations but no disease-modifying therapy. Gene therapy has the potential to address the resulting imperative for progress that the directors note. Similarly, the inclusion of rare disorders in the summary of the burden of neurological disorders is appreciated, which notes that about 40 percent of the 7,000 rare disorders are neurological disorders. Below we highlight additional areas of the strategic plan that we are enthusiastic the Institute has prioritized, and we respectfully suggest additional brief supportive information on topics of mutual interest.

Science: Support and perform rigorous and important neuroscience research

ASGCT strongly agrees that the recent advent of successful gene-targeted therapies for rare genetic disorders heralds a new era for many devastating and heretofore untreatable neurological disorders (p. 10). The Society lauds NINDS' resultant commitment to "act aggressively to take advantage of these emerging opportunities."

Basic research. The Society appreciates inclusion of gene therapy as an example of the importance of basic research, by noting that the recent breakthroughs in gene-targeted therapy for spinal muscular atrophy shows a path forward from the recognition of underlying genetic causes for many other diseases (p. 8). Another beneficial role of basic research that could be added to the list (p. 9) is the development and refinement of approaches to improve upon existing treatments. For example, in the gene therapy field, fruitful areas of basic research include vector development and refinement; assessment of the immunological profile of AAV vectors; and reduction of vector immunogenicity.

Epidemiological studies. The Society welcomes NINDS' plan to continue facilitating data collection and epidemiological studies of neurological disorders (p. 11). Across the gene therapy field, access to dependable data on patient populations, particularly for less common disorders

with high unmet needs, has been identified as one of the key challenges to future therapeutic development.

Translational research. We appreciate NINDS' continued support of translational research from early preclinical therapy development through first-in-human studies, including for cell and gene-targeted therapies, and its commitment to innovative treatment strategies (p. 9). ASGCT supports NINDS approach, that "the more innovative a therapeutic strategy and the greater the risk for failure, the further NINDS is likely to advance development and thereby *de-risk* the future investment by industry." Funding for translational and early clinical research is key to overcoming the valley of death in therapeutic research. Furthermore, the Society applauds that NINDS drug and biologics programs provide expertise and contract-based therapy development resources that are not usually available to academic and small business researchers (p. 9).

Clinical research. Because the Society prioritizes support of the development of, and access to, gene therapies for ultra-rare diseases, ASGCT commends NINDS for its attention to this issue. We find the current development of the Ultra-rare Gene-based Therapy (URGenT) Network to be highly commendable in its support of the development of gene-based therapies for ultra-rare neurological diseases from late-stage pre-clinical development into first-in-human clinical testing. Of significance, this effort will provide resources and expertise not currently available to applicants. In addition, this funding model could lead the way for the standardization and harmonization of best practices and protocols for the development of gene-based therapies for ultra-rare diseases for other NIH Institutes and Centers.

ASGCT also enthusiastically supports NINDS' partnership with NCATS in the Platform Vector Gene Therapy (PaVe-GT) project. We respectfully suggest that NINDS highlight this important joint effort in its strategic plan. The Society supports the PaVe-GT goal to reduce operational and financial roadblocks in the development of AAV-based gene therapies. The private sector is unlikely to comprehensively take on this challenge, and thus this program is imperative.

Additional research-related priorities. ASGCT is pleased for the inclusion of the following priorities in the NINDS strategic plan:

- Advancement of health equity, including through the establishment of a new Office of Global Health and Health Disparities.
- Patient engagement to promote opportunities for researchers and patient organizations to constructively engage with one another.

Additional NINDS Priorities

ASGCT also welcomes the inclusion of the following NINDS priorities in its strategic plan:

- **Training and Workforce Diversity.** ASGCT strongly supports policies to further grow the pool of gene therapy trainees, in particular trainees with diverse backgrounds and life experiences. Dedicated funding for research training and career development is vital to the field's continued growth.
- **Communications.** ASGCT applauds efforts to amplify and clarify funding opportunity announcements, as many ASGCT members are among the researchers who rely on robust NIH grants to support their work.

Further Support and Collaboration

ASGCT would be happy to support and engage with the Institute staff. The Society could be of assistance is sharing research funding opportunities with our members and sharing potential opportunities to volunteer their expertise as NIH reviewers, if such a need exists. We would welcome further discussion with the Institute on how we may support its efforts, including in the provision of online information for patients and their families. Additionally, ASGCT offers our members as resources to NINDS when seeking input on research gaps and opportunities.

Thank you for your consideration of these comments. If you have questions, please contact Betsy Foss Campbell, Director of Policy and Advocacy, at bfoss@asct.org.