THE UNIVERSITY OF TOLEDO | Center for Drug Design and Development

Isaac T. Schiefer, Ph.D.
Director, Center for Drug Design and Development (CD3)
Professor and Vice Chair, Dept. of Medicinal & Biological Chemistry
College of Pharmacy and Pharmaceutical Sciences
University of Toledo

3000 Arlington Ave
Mail Stop 1015
Toledo, OH 43614
Phone: 419-383-1935
Email: isaac.schiefer@utoledo.edu

May 13th, 2025

Chairman Young, Vice Chair Ritter, Ranking Member Piccolantonio, and distinguished members of the Ohio House Workforce & Higher Education Committee,

I am deeply honored to speak with you today about HB91, the Traumatic Brain Injury Treatment Accelerator Program (TBITXL). My name is Dr. Isaac Schiefer, PhD, and I am a Professor of Medicinal Chemistry at the University of Toledo, where I have spent over a decade advancing the field of neuroscience. My work, which includes multiple issued patents for small molecules targeting neurodegenerative diseases, has been awarded over $6 million from the National Institutes of Health (NIH) over the past decade. I have served on numerous national study sections for the NIH related to small business development and translational drug discovery for brain disorders, and through 2027, I will continue to serve as a chartered member (and ad hoc Co-Chair) of Drug Discovery and Molecular Pharmacology B, the flagship NIH study section for academic drug discovery related to brain disorders and neurodegeneration. These accomplishments position me as a national leader in academic drug discovery focused on brain health.

However, despite these achievements, the reality of being an academic researcher is far from easy. Professors like myself submit numerous grant applications each year, competing for limited funding with thousands of others—many from elite coastal institutions with significant internal resources. The process from grant proposal submission to receiving funding commonly takes 18–30 months for even highly successful investigators and often spans three years or more before moving from an idea to securing enough funding for meaningful translational research. The bureaucratic hurdles in biomedical research funding slow innovation to a crawl—a pace that is unacceptable when lives are at stake.

This is why I am so enthusiastic about the opportunity to collaborate with the Brain Injury Research Foundation through the TBITXL program, which aims to transform how we approach the treatment of traumatic brain injuries (TBI). Too often, academic research operates in silos, leading to overlapping efforts and slow progress. TBITXL will break down these barriers by fostering collaboration across Ohio's research institutions. Through conferences, workshops, and shared research efforts, this initiative will create a dynamic and integrated approach to TBI research, leading to faster, more impactful discoveries.

Currently, there are no effective therapies for severe brain trauma. The lack of incentives for private businesses to invest in this area has left significant progress unrealized. Traumatic brain injury has been largely neglected by the private sector, underscoring the urgent need for innovative financing mechanisms to bridge this gap and advance life-saving treatments. TBI is especially important for Ohioans. We are an active physically active population. Contact sports are exceedingly important for shaping our youth and instilling values that are key to our very essence as Ohioans .

Ohio is uniquely positioned to lead this effort. As a state, we rank 7th in population and 6th in the number of neuroscience programs, yet we are 10th in total NIH funding. With initiatives like the upcoming DO medical school at Xavier University, Ohio has the potential to become a national hub for biomedical and neuroscience innovation. Increased state investment can help stimulate local innovation and entrepreneurship. As studies have shown, 31% of university research grants are cited in private-sector patents, and states with higher NIH funding attract significantly more venture capital investments.

We must also recognize the importance of regional and community involvement in driving innovation. Having local researchers on the front lines of discovery inspires confidence and hope in the public. I have witnessed this firsthand. After receiving an Alzheimer's Association grant, I was asked to chair a 'Walk to End Alzheimer's Disease'. Since then, I have been approached countless times by members of my community who were uplifted by the knowledge that someone in their own backyard was actively working to combat a disease that had profoundly impacted their lives. TBITXL offers Ohioans that same hope—hope that progress is being made not in distant cities, but here in Ohio, through research tailored to their needs.

In addition to my work, I would like to highlight the entrepreneurial mindset and collaborative spirit that this program will foster, echoing the legacy of Harold McMaster in Toledo. McMaster's pioneering work in photovoltaics laid the foundation for the city's thriving photovoltaic industry—a perfect example of what can be achieved when innovation meets opportunity. TBITXL has the potential to establish a similar ecosystem for TBI research and other critical medical advancements, cementing Ohio's place as a leader in biomedical innovation.

As further evidence of this program's potential, consider letters of support from key stakeholders in our community, including those who have highlighted: 1)the importance of breaking down silos to accelerate translational outcomes; 2)the economic benefits of investing in academic research, with returns that include commercialization opportunities and job creation; 3)the critical need to support Ohio's talent and leverage its existing research infrastructure to address neglected areas like TBI.

These voices echo a unified belief: TBITXL represents a groundbreaking opportunity for Ohio to lead the charge in tackling a critical public health challenge while strengthening its role as a hub for innovation and discovery.

Thank you for considering this important legislation. Should you need further information, please do not hesitate to contact my office. Together, we can drive meaningful progress and build a healthier, brighter future for all Ohioans.

Sincerely yours,

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