

# JOHNS HOPKINS

MEDICAL INSTITUTIONS

## Department of Pathology

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The Board of Directors of  
Lauren's First and Goal Foundation  
1002 B Bartlett Loop  
West Point, NY 10996

Dear Ladies and Gentlemen:

We want to express our deep appreciation to you for the invaluable support the Lauren's First and Goal Foundation has provided to our pediatric brain tumor research for nearly a decade and a half. On behalf of all of us in the Division of Neuropathology in the Johns Hopkins Department of Pathology, thank you for your continued, generous support.

At this time, we are pleased to provide you with a summary highlighting the important progress we have made during the past year because of your philanthropic support. Despite research restrictions imposed by the COVID crisis, we are very pleased by what we have achieved. As previously shared with you, our team's overall research focus continues to be: (1) identifying molecular changes in pediatric low grade gliomas, predominantly pilocytic and pilomyxoid astrocytomas (PA/PMA), that facilitate more accurate diagnosis; (2) searching for molecular "weak spots" that can serve as the targets of new, more effective therapies; and (3) developing new models of these tumors, and testing agents in the laboratory and clinic that target specific molecular alterations.

- 1) As we have reported in prior updates, support from Lauren's First and Goal has allowed us to use a technique known as "conditional reprogramming of cells" to attempt to grow various types of pediatric low grade gliomas in culture. We have shared several new pediatric glioma cell line models resulting from this effort with other laboratories to use it in their testing of new treatments, and we are currently working to have them maintained and shared by an NIH-sponsored repository. A paper describing this advance has just been accepted for online publication in *Neuro-Oncology*, a leading journal in the field. The support of Lauren's First and Goal Foundation is acknowledged in the paper.
- 2) A group of small RNA molecules known as microRNAs have demonstrated increasing roles in cancer by regulating the levels of numerous proteins, including genes which suppress or promote tumor growth. Work by Dr. Rodriguez has demonstrated that a set of microRNAs, specifically miR-10b, is overexpressed in aggressive forms of NF1-associated glioma and increases tumor invasiveness. This work was published in the June 2020 issue of *Neuropathology and Applied Neurobiology* (PMID: 32603552) and acknowledged the support of Lauren's First and Goal Foundation.
- 3) Dr. Rodriguez is also a co-author of a new consensus report from a national group of experts on "Implications of new understandings of gliomas in children and adults with NF1" also published in the journal *Neuro-Oncology* recently.
- 4) Drs. Rodriguez and Eberhart are among the select group of pathologists and oncologists from around the world drafting a new World Health Organization (WHO) classification scheme for brain tumors, including pediatric low grade gliomas. This new edition is in the final stages of editing, and will be published in early 2021.

As you can see, despite the challenges of the global pandemic, exciting advances continue to be made in our understanding, diagnosis, and treatment of pediatric brain tumors, bringing hope to the children and their families afflicted by these tumors. We could not have achieved these results without generous and committed philanthropic partners such as Lauren's First and Goal Foundation. We are truly grateful.

Wishing you and your families joy and good health this holiday season!

Warm regards,



Charles Eberhart, M.D., Ph.D.  
Charlotte A. Wilson and Margaret K. Witener  
Professor of Ophthalmology  
Professor of Pathology, Ophthalmology and Oncology  
Director of Neuropathology  
Chief of Ophthalmic Pathology



Fausto Rodriguez, M.D.  
Professor of Pathology, Ophthalmology and Oncology

cc: Michaela McAuliffe, Assistant Director of Development, Department of Pathology