



# Alex's Lemonade Stand Foundation

## Brain Tumors Impact Report





**Alex's Lemonade Stand Foundation (ALSF) emerged from the front yard lemonade stand of 4-year-old Alexandra “Alex” Scott, who was fighting cancer and wanted to raise money to find cures for all children with cancer. By the time Alex passed away at the age of 8, she had raised \$1 million. Since then, the Foundation bearing her name has evolved into a worldwide fundraising movement and the largest independent childhood cancer charity in the U.S. ALSF is a leader in funding pediatric cancer research projects across the globe and providing programs to families affected by childhood cancer. For more information, visit [AlexsLemonade.org](https://AlexsLemonade.org).**



With Gratitude

## Dear Friend,

All of us here at Alex's Lemonade Stand Foundation (ALSF) would like to sincerely thank you for your support of Alex's mission to find new treatments and cures for childhood cancers like brain tumors.

Your support is helping researchers to develop preliminary data, publish their findings, and push forward innovative treatment options. Thanks to you, we are closer to a day where no child will have to suffer from brain tumors.

We are truly honored to fight childhood cancer by your side. Thank you for being the driving force behind life-saving cures. Please don't hesitate to reach out if you need anything from us here at ALSF.

Until there's a cure,



**Liz & Jay Scott**

Alex's Parents & Co-Executive Directors

*Alex's Lemonade Stand Foundation*



# **Thanks** to Supporters Like You

**ALSF is the largest independent childhood cancer charity in the U.S., focused on funding critical research and supporting childhood cancer families.**



More than \$300M raised since 2005



Funded over 1,500 medical research grants at nearly 150 institutions



Supported nearly 30,000 families through key programs like Travel For Care

ALSF is the only childhood cancer research organization that has been given the NCI Peer-Reviewed Funder Designation for rigorous selection of research and grants.

# Meet a **Brain Tumor Hero**



## HUXLEY



At birth, Huxley, called Hux by his family, was diagnosed with Phelan-McDermid syndrome. It was recommended he get yearly brain MRIs, so Hux had his first at 1 year old. He had to skip his second MRI due to COVID. Around this time, he started exhibiting concerning symptoms like regression and some worsening balance issues. A few months after turning 3, Hux's MRI showed a frontal brain tumor.

Hux underwent brain surgery on June 30, 2021. Two days later, on July 2, he was diagnosed with atypical teratoid rhabdoid tumor (ATRT).

Treatment started July 21. Hux had induction chemo, three rounds of high dose chemotherapy with stem cell transplants, and 33 treatments of radiation. He rang the bell on April 12, 2022, and has remained cancer-free ever since!

Hux's family hopes that he can continue to live a cancer-free life. He is their hero. He's a party animal who will stay awake all night, and loves dancing, swimming, and being outside. He is nonverbal but will let you know if he likes something or not – like his favorite TV show, Miraculous: Tales of Ladybug & Cat Noir, which helped keep him going through his cancer treatment. He has also checked off cosmic bowling and releasing water lanterns off his bucket list!

Courtney, Hux's mom, hopes that a cure will be found for childhood cancer and believes that raising awareness through Alex's Lemonade Stand Foundation is the way to get there.

“The road may be winding, and you might even get lost along the way, but with the help of the right people you will always find your destination.”

-Courtney, Mom of Childhood Cancer Hero, Huxley

# **ALSF-Funded** Brain Tumor Research

Thanks to you, we have been able to continue funding breakthrough research for more cures. Read through some of our recently funded brain tumor research projects below:

## **Modifying CAR T cell epigenetic programs to improve therapy against aggressive pediatric brain tumors**

Meghan Ward, PhD  
St. Jude Children's Research Hospital  
Young Investigator Grants, Awarded 2024

## **Understanding the role of CDK8 in protein synthesis for treating MYC-driven medulloblastoma**

Dong Wang, PhD  
University of Colorado Denver  
Young Investigator Grants, Awarded 2024

## **Unraveling GABAergic interneuron-like lineage in H3G34-mutant hemispheric high-grade gliomas: their impact on network formation and invasion**

Gustavo Alencastro Veiga Cruzeiro, PhD  
Dana-Farber Cancer Institute  
Young Investigator Grants, Awarded 2024

## **The influence of the raphe nucleus and serotonin on progression of diffuse intrinsic pontine glioma**

Richard Drexler, MD/PhD  
Stanford University  
Young Investigator Grants, Awarded 2024

## **Identifying medulloblastoma vulnerabilities using somatic copy number alterations**

Ellie Kim  
Broad Institute  
POST Program Grants, Awarded 2024



A complete list of ALSF-funded brain tumor projects can be found at:  
[AlexsLemonade.org/childhood-cancer/type/brain-tumors/grants](https://AlexsLemonade.org/childhood-cancer/type/brain-tumors/grants)

# Research **Spotlight**

## **The Influence of the Raphe Nucleus and Serotonin on Progression of Diffuse Intrinsic Pontine Glioma (DIPG)**

**Richard Drexler, MD, PhD**  
**Stanford University**



Alex's Lemonade Stand Foundation (ALSF) has always believed that attracting and retaining the best and brightest early career scientists is critical to the future of childhood cancer research. Richard Drexler, MD/PhD is one such scientist. He was awarded a 2024 Young Investigator Grant, designed to fill the critical need for startup funds for less experienced researchers to pursue promising research ideas. Dr. Drexler's idea: to figure out how the neurotransmitter serotonin and serotonin neurons are involved in Diffuse Intrinsic Pontine Glioma (DIPG). His team strongly believes that their research could change how we understand the role of neurotransmitters in DIPG and potentially reveal new ways to treat and cure this disease.



## **Understanding the Role of CDK8 in Protein Synthesis for Treating MYC-Driven Medulloblastoma**

**Dong Wang, PhD**  
**University of Colorado, Denver**

Dong Wang, PhD was also awarded a 2024 Young Investigator Grant to investigate the molecular mechanisms underlying the oncogenic activity driven by the MYC gene and determine optimal strategies to combat MYC-driven medulloblastoma (MB). Patients with MYC-driven MB commonly experience relapse accompanied by metastatic spread and local recurrences, resulting in long-term survival rates of less than 5%. Cyclin-dependent kinase 8 (CDK8) emerged as a significantly selected gene crucial for MYC-driven MB growth. Based on Dr. Wang and his team's findings thus far, they hypothesize that targeting CDK8 could be a promising therapeutic approach for treating MYC-driven MB.

## Targeting the Proteasome in Atypical Teratoid/Rhabdoid Tumors (AT/RT)

Alyssa Wu

The John Hopkins University School of Medicine



Alex's Lemonade Stand Foundation invests in the future – whether that means helping kids get the treatment they need, or funding researchers to keep expanding the field of pediatric cancer research. The Pediatric Oncology Student Training (POST) Program was designed for undergraduate, graduate, and medical students to participate in the field firsthand under the guidance of an experienced research mentor. Alyssa Wu is 1 of 47 students who were awarded POST grants in 2024. Under the mentorship of Eric Raabe, a 2011 ALSF Young Investigator Grant recipient, Alyssa will investigate novel therapeutics to treat atypical teratoid/rhabdoid tumor (AT/RT), a highly malignant pediatric brain tumor of the central nervous system (CNS).



## Unraveling Metabolic Dependencies in Childhood Supratentorial Ependymomas

Sriram Venneti, MD/PhD

Regents of the University of Michigan

Sriram Venneti, MD/PhD was awarded an ALSF Innovation Grant, designed to provide critical and significant seed funding for experienced investigators with a novel and promising approach to finding causes and cures for childhood cancers. Dr. Venneti and his team investigated why ependymoma tumor cells with the C11orf95-RELA protein are addicted to glutamine. Since then, they have learned that supratentorial ependymoma is driven by an abnormal protein, called ZFTARELA, that results in tumor cells eating up large quantities of glutamine. Glutamine supports the cells to stay alive and divide by balancing the redox state of tumor cells. They will be using this knowledge to stop cells from using glutamine, thereby killing these aggressive cancer cells.





**Thank You**

for all you do to help kids with cancer!

