



Alex's Lemonade Stand Foundation

Diffuse Intrinsic Pontine Glioma

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. Her spirit and determination inspired others to support her cause, and when she passed away at the age of 8, she had raised \$1 million. Since then, the Foundation bearing her name has evolved into a national fundraising movement and is one of the leading funders of pediatric cancer research in the U.S. and Canada.



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 DIPG.

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 DIPG.

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

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DIPG projects (and counting) have been funded since our founding

“The ALSF support is 'keeping the lights on' in the lab and making us competitive for future NIH funding.”

— Dr. Craig Mullen,
University of Rochester



“Understanding fundamental processes is critical to developing new targeted therapies. We greatly appreciate ALSF's investment in myself, my research, and my vision.”

— Dr. Genevieve Kendall,
Nationwide Children's Hospital

Remembering a **DIPG Hero**

Name: Keaton

Favorite Superhero: Captain America

Favorite Color: Red because it's the first color of the rainbow



In April 2022, Keaton tripped on his way into school. After his fall, he was dizzy and vomiting. His family took him to the clinic the next day, but they were sent home and told to bring him in if his condition worsened. Every day he would vomit first thing in the morning. Three days later, Keaton was taken to the Emergency Room. The ER doctor did a CT scan and said that Keaton had a brain tumor. From there, he traveled to Sanford Children's Hospital in Fargo, ND where he was admitted for an MRI and a biopsy.

On May 6, 2022, Keaton's family was told he had DIPG. He was transferred to Mayo Clinic in Rochester, MN where he participated in a clinical trial and received 10 sessions of radiation. At the end of May, he was able to travel back home to North Dakota.

Keaton was improving, and another MRI scan showed that his tumor had shrunk. In June 2022, Keaton and his family traveled to Orlando, FL for a family trip that had been planned for two years. Keaton's health started declining after the family arrived in Florida. He was taken to the ER at Arnold Palmer Children's Hospital, and after a CT scan, it was determined that Keaton was showing significant brain bleeds. Sadly, Keaton passed away on June 13, 2022, the day after his 9th birthday.

Keaton is a hero because he faced his medical challenges with bravery. He never lost his sense of humor or the wonderful sparkle in his eye. He remained determined and didn't complain once. His family remembers him lovingly.

Research Spotlight: New Projects in DIPG

Epigenetic therapies to concurrently target DIPG tumor cells and harness the immune system

Sriram Venneti, MD/PhD, University of Michigan

Dr. Sriram Venneti is now in the second year of his Reach Grant which is investigating the association of a very frequent mutation in DIPG tumor cells with proteins that help to establish the structure of DNA. Elevated expression of these proteins seems to affect the normal function of DNA

and may result in abnormal cell growth. His goal is to inhibit these DNA proteins to specifically target the potential cause contributing to the maintenance of DIPG cells. Overall, he expects that elimination of these DNA proteins will result in a greater effect in terms of reducing aberrant DIPG cell growth, tumor progression and activation of the immune system. Dr. Venneti and his team plan to leverage this knowledge to develop a drug that reduces these DNA proteins. They will test if this drug kills DIPG cells in animal models. Their work is important and impactful as their results will lay the groundwork to develop effective therapies for DIPGs.



Isoform-specific TNC-redirected T cell Therapy for DIPG

Stephen Gottschalk, MD and Giedre Krenciute, PhD

St. Jude's Children's Research Hospital

Dr. Krenciute and Dr. Gottschalk are using their Reach Grant, awarded in 2022, to develop an effective CAR T cell therapy for DIPG. In their preliminary studies they have shown that DIPGs express a variant of molecule called tenascin. They believe that this molecule represents an ideal CAR target since its expression is

linked to DIPG being a cancer. They have now generated a functional CAR prototype and optimized their CAR in the first year of their Reach Grant. In the second year of their grant, they will conduct studies to further improve the anti-tumor activity of DIPG-specific CAR T cells by expressing receptors that promote the growth of CAR T cells once they have recognized DIPG cells. They will use cell culture studies and models that closely mimic DIPGs to evaluate the generated DIPG-specific CAR T cells. Dr. Krenciute and Dr. Gottschalk are two investigators with complementary expertise in immunotherapy for pediatric brain tumors and T cell engineering. If successful, they are planning to develop a clinical study to evaluate their approach in children who have DIPG in the future.





Where Are They Now?

Michelle Monje, MD/PhD, Stanford University

ALSF Alumna Dr. Michelle Monje was first awarded a highly esteemed 'A' Award in 2011 to study DIPG using her experimental mouse model system and discovered some of the molecular factors that drive DIPG tumor growth. Her early research targeted two types of cells in the tumor — those responsible for tumor initiation and a distinct population responsible for tumor expansion.

Since then, Dr. Monje has been awarded a Howard Hughes Award, was a 2021 MacArthur Fellow, became a mother of four, and was awarded a Crazy 8 Pilot grant from ALSF looking at CAR T cell immunotherapy for spinal cord diffuse midline gliomas in a Phase 1 clinical trial. Diffuse midline gliomas are inoperable, lethal, high-grade central nervous system tumors primarily affecting children and young adults.

Currently, Dr. Monje is studying CAR T cell immunotherapy for diffuse intrinsic pontine glioma (DIPG) in a Phase 1 clinical trial. DIPG is a pediatric brain tumor with a zero-percent cure rate. The trial is still in its early stages, but there have been early wins for some patients enrolled on the trial.

“ALSF helped launch my research program 11 years ago and has supported my lab at every step along the way. Their investment in childhood cancer research has transformed the field and nurtured the development of a generation of childhood cancer researchers,” said Dr. Monje.



Thank You

for all you do to help kids with cancer!

