KAT6 NEWS

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The KAT6A Foundation was founded in 2017 by a handful of parents of children identified with mutations on their KAT6A gene. At the time, there were less than 50 known KAT6A cases. In the span of 5 years, our numbers have expanded to over 370 known KAT6A cases worldwide.

In 2020, the KAT6A Foundation began fostering connections with the KAT6B community and in 2022, formally became the KAT6 Foundation, an organization devoted to understanding mutations in both KAT6A and KAT6B genes. Today, there are more than 500 known cases of KAT6 syndromes worldwide, and we expect our numbers to continue to grow.

Inside This Issue

LETTER FROM BOARD CHAIR

Dear KAT6 Community,

It has been another great year for the KAT6 Foundation thanks to the engagement and participation of our family community, the dedication of our volunteers, and the pursuits of our research community.

Thank you to Katie Bator, all of the Team Captains, and every participant and donor for another very successful KATWalk event in 2024. This year we raised $187,000, which is a $12,000 increase relative to 2023. Our Annual Appeal is currently underway as we close the year, and we have an aggressive goal of $275,000. Please share awareness of this Appeal through social media posts you'll find in the KAT6 Facebook group and connect potential donors with our Fundraising Chair Karen Ginsburg if they have questions. **Also note that the Foundation can accept equities and donations from retirement funds from individuals looking for tax benefits, and we encourage consideration of the Foundation when families are making their estate plans.**

Thank you to Natacha Esber and Emile Najm for organizing a fantastic Annual Conference in June in Baltimore. We had over 235 attendees, 7 research presentations, and 3 different clinical workshops. We look forward to even greater participation at the 2025 conference on May 31 st in Baltimore – please mark your calendars!

To provide direct support to KAT6 families, in 2024 the Foundation made 21 individual Empowered Grants to families to support assistive devices and therapies for their loved ones and we look forward to continuing this program in 2025.

This year our research community, supported through your donations and fundraising, has been publishing their progress in understanding the fundamental aspects of the KAT6A and KAT6B disorders - you can find the new publications on the foundation's website.

In November, we released a Request for Proposals (RFP) with a response deadline of February 28, 2025. Please share the RFP notice with any researchers who may be interested in KAT6 disorders. We are expecting to receive at least several compelling proposals to investigate impacts and potential treatments to mitigate the effects of KAT6A and KAT6B mutations. The collective fundraising efforts of our community have made this RFP solicitation possible; however, we won't be able to fund every project proposed, so let's keep pressing toward our fundraising goals to enable as much research as possible!

Lastly, I have two requests for you. First, we are always looking for volunteers interested in assisting the Foundation's activities - to include serving on the foundation's Board of Directors. If you are interested, please reach out to **support@kat6a.org**. Second, we are in the midst of our year-end Annual Appeal fundraising campaign. Please reach out to your network for folks who may not have been able to give earlier in the year or participate in the KATwalk.

Best wishes for a happy and healthy 2025!

Sincerely,
Jordan Muller
KAT6 Foundation, Board Chair

EVENTS RECAP

5th International KAT6A & KAT6B Conference

The KAT6 Foundation organized the 5th International KAT6A and KAT6B Conference, a collaborative event centered around patients. The main objective was to strengthen international research on KAT6A and KAT6B and facilitate open discussions among families, clinicians, and researchers.

The conference provided a platform for the KAT6 community to expand its network and establish connections among families and experts in the field. The event had 210 registrants, including 58 families and 20 scientists from the USA and around the world. Held in Baltimore, USA, the one-day conference covered a wide range of topics, including personalized medicine, the role of iPSC cell lines, neuropsychological assessments, generation of accurate animal models to study KAT6 gene variations, advocacy, the KAT6A and KAT6B patient registry, and initiatives by the KAT6 Foundation, such as the KATwalk.

During the conference, the KAT6 Foundation assisted three research groups by facilitating family participation in research data collection. This year, the foundation also hosted three workshops for families on speech, advocacy, and a round table with Dr. Kelley. These workshops were highly praised for providing opportunities to learn and practice new skills and brainstorm various topics related to the health of children with KAT6A and KAT6B gene variations.

SAVE THE DATE

May 31st, 2025:
6th International KAT6
Conference in Baltimore, MD

Register Here

KATwalk 2024

Thanks to the incredible efforts of KATwalk Chair Katie Bator, our ambitious KATwalk hosts and their generous friends, families and sponsors, we raised $187,000!

We are blown away by such support from friends and family, allowing us to continue raising awareness and supporting families in our community.

In-person walks took place in 14 US states and 3 countries, including our first ever KATwalk in Brazil! This year's walk hosted our highest number of teams so far with 34 teams participating across the globe!

We want to extend a huge THANK YOU to everyone who volunteered, donated time, money and resources, spread the word, and supported their loved ones in person or from afar. Your continued support allows us to support families, fund Empowered Grants, drive research and so much more!

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Team Luke - $25,502
Team Benjamin - $23,014
Siempre Hay Luz - $21,624
Walk for Jack - $12,939
Team Peter - $9,896
Team Hadley - $8,810
Will's Warriors - $8,772
Go Yaya! - $8,200
Jack's KAT Pack - $7,909
Gigi's Guardian Angels - $7,732

A KAT6 Foundation Funded Research Project Gets Published!

We are proud to report that research led by Dr. José A. Sánchez-Alcázar and his team was published on November 15, 2022 in a journal article titled, **Pantothenate and L-carnitine Supplementation Corrects Pathological Alterations in Cellular Models of KAT6A Syndrome**. The article is available on the Preprints Platform as it is waiting peer review. This is an important milestone for our Foundation as it is the first research project that we directly funded to reach publication, and is an important step forward on the path to finding a treatment for KAT6 individuals.

Three individuals with KAT6A gene variation participated in the study conducted at Universidad Pablo de Olavide in Spain. An initial series of experiments generated evidence supporting the use of patient-derived fibroblast to study KAT6A gene variation.

The team identified four critical pathophysiological processes altered by KAT6A gene variation: 1) Coenzyme A (CoA) metabolism, 2) Iron metabolism, 3) Enzymatic antioxidant system and 4) Mitochondrial function. Two compounds were identified to have a positive impact on the altered physiological pathways. These compounds are: 1) Pantothenate and 2) L-carnitine. Pantothenate is a CoA metabolism activator and L-carnitine is a mitochondrial boosting agent. Supplementation with pantothenate and L-carnitine supported the survival of the KAT6A fibroblast in a stress inducing medium. The concentration of pantothenate and L-carnitine varied in all three KAT6A cell lines suggesting that different type of mutations respond differently to these positive compounds. The KAT6A gene plays a significant role in histone acetylation which is a key process involved in cell progression and differentiation. Supplementation with pantothenate and L-carnitine resulted in significant increase in histone acetylation, recovery of gene expression patterns and expression levels of proteins affected due to the KAT6A gene variation.

We want to extend our sincere thanks to Dr. José A. Sánchez-Alcázar and his entire team for their professionalism and commitment to rare disease research and the KAT6 community. We look forward to building upon this partnership in the future.

KAT6A and KAT6B Research Published in 2024

Fetal Hepatic Calcification in Severe KAT6A (Arboleda-Tham) Syndrome

KAT6A deficiency impairs cognitive functions through suppressing RSPO2/Wnt signaling in hippocampal CA3

Increasing histone acetylation improves sociability and restores learning and memory in KAT6B-haploinsufficient mice

De novo KAT6B mutation causes Say–Barber–Biesecker–Young–Simpson variant of Ohdo syndrome in an Iranian boy: a case report

Current Research Projects Funded by KAT6

Assaraf Research Lab at Technion Institute

Dr. Yehuda Assaraf of Technion Institute in Israel has been studying KAT6A gene mutations since 2017. In June, 2022 the KAT6 Foundation began funding new research at the Assaraf Research Lab. The current research aims to characterize the molecular loss of function of the KAT6A and KAT6B genes in dermal fibroblasts obtained from the mutation of the KAT6A and KAT6B gene when compared to healthy counterparts, using state-of-the-art metabolomics analysis, including cutting edge seahorse technology.

Quantitative and qualitative alterations in metabolites from mutant KAT6A and KAT6B fibroblasts could uncover the metabolic pathways that may be dysregulated or impaired in KAT6A and KAT6B patients. Upon cross-verification with the complementary omics, analyses which the team previously performed with a single KAT6A patient, paired with relevant literature, this information could be used for the selection of the most appropriate nutrients for personal supplementation of KAT6A and KAT6B individuals, as well as for possible therapeutic interventions.

iPSC Bank at Boston University

The KAT6 Foundation and collaborators established the first patient-derived induced Pluripotent Stem Cells (iPSC) bank for KAT6A and KAT6B variants.

The foundation's Science Advisor, Dr. Angie Serrano, stores and maintains biospecimens, such as skin and blood samples of KAT6A and KAT6B patients at Boston University. This bank broadly shares iPSC to the whole research community and industry to spark collaboration and advance research in KAT6 syndromes.

Furthermore, the biospecimens can be used by multiple researchers for multipurpose research studies. Our foundation is responsible for the cost of the reprogramming services for the generation of 5 patient-specific iPSC lines and will continue to fund more cell lines in 2025 if funding is available.

Email support@kat6a.org to provide samples for the KAT6A and KAT6B (iPSC) Bank.

Dr. Serrano and KAT6 Foundation co-founder, Natacha Esber at Serrano Lab.

Call for Research Proposals

This call for proposals invites research across basic and translational sciences aimed at improving outcomes for individuals with KAT6A or KAT6B gene variations. The foundation has historically funded individual research projects in the range of $10,000 and $50,000 annually. If you are interested in submitting a proposal outside of this range, please contact the foundation at kat6a@yahoo.com.

Applicants are encouraged to demonstrate inter-institutional collaboration and a strong focus on patient-centered research in the research proposal.

DOWNLOAD GRANT APPLICATION

ATTENTION RESEARCHERS:

The KAT6 Foundation is addressing a critical research priority raised by families—gastrointestinal challenges faced by children with KAT6A and KAT6B. This population experiences a concerning increase in mortality due to poor GI motility and perforation. Tragically, we recently lost another child to GI perforation, which has heightened anxiety and urgency within the community.

We are keen to better understand the factors that contribute to susceptibility to poor motility, bowel obstruction, and the risk of perforation in children with KAT6A and KAT6B. Equally important is identifying effective treatment strategies to address these issues.

If you are interested in collaborating on this important challenge, please email the KAT6 Foundation at support@kat6a.org.

Learn more about Bowel Obstructions in the KAT6 Population.

WEBINARS, COMMITTEES AND INVOLVEMENT WITH NORD

Advocacy Update: Legislation, Long Term Planning

Overlapping Cognitive and Behavioral Features Across KAT6A and KAT6B Disorders

Precision Medicine for KAT6A and KAT6B Syndromes by Professor José Antonio Sánchez Alcázar

These webinars and conference presentations are available on the KAT6 Foundation's YouTube page!

Involvement with NORD

Our scientific committee assisted NORD (National Organization for Rare Disease) in publishing the first NORD report on KAT6B-related disorders. Read it here!

2024 offered our KAT6 families several opportunities to participate in studies and screenings and give their valuable input as a caregiver to a child with a RARE disease.

Sign up for the Guardian Study - Newborn Screening

Seeking Participants for New Research on KAT6B with Dr. Rowena Ng, PhD.

In 2023, the KAT6 Foundation established a committee to study mortality within our community. While we are all here to surround and support those burdened with the loss of a loved one, the ultimate objectives for this committee are to guide parents in understanding how best to adjust to KAT6 disorders and to prevent suffering among our most vulnerable members. We ask that all families register with the KAT6 Patient Registry to support meaningful research.

In honor of those we lost this year, we extend our deepest condolences to the parents and families who are grieving. We mourn with you. These losses are reminders for all of us to continue the mission of the KAT6 Foundation - to advance research, provide support and increase awareness of KAT6 Syndrome.

RAISING AWARENESS

We're excited to announce that we've been selected as a 2024 #RAREis Global Advocate Grant recipient by the #RAREis program from Amgen! In total Amgen awarded 75 one-time $5,000 grants to global rare disease advocacy organizations to support programs and disease education initiatives.

We're motivated to continue making a positive impact for the rare disease community by expanding our efforts in KAT6 education and advocacy as we work to address the needs of all those impacted. Learn more about the #RAREisGrant.

Our KAT6 community is made up of many dedicated parents who advocate tirelessly for their loved ones.

Recently, Kerrie, mother of a child diagnosed with KAT6A syndrome, was able to make a positive impact in her UK neighborhood for children with disabilities.

Due to Kerrie's perseverance, a playground in her local community is now more inclusive.

On April 5th, KAT6 Foundation CEO and co-founders Emile Najm, Natacha Esber and their family attended the Nyack International Film Festival where the KAT6 documentary Genetic Defekt was screened.

As part of the festival, our film was given the opportunity to share our story with a new audience and allow us to continue raising awareness far and wide. Genetic Defekt is a tool we have long needed to bring attention to the adversity that has brought us together. Watch Genetic Defekt here.

RAISING AWARENESS

We are delighted to share that the Chan Zuckerberg Initiative's, Rare As One Network Cycle 1 Impact Report, is now live on CZI's website. The report includes our foundation's individual and collective accomplishments during and after the grant period (2019-2023). Additionally, we are excited that the report and its key findings were published on December 9, 2024 in Endpoints News.

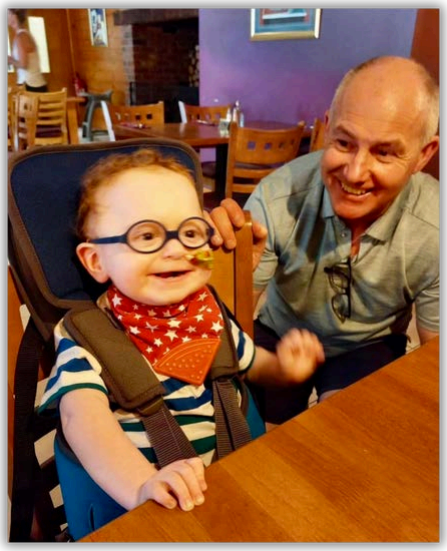
We are continuously grateful to have been selected as a Rare as One participant in 2019 and for the opportunities awarded to us through their partnership. We look forward to continuing to develop new research opportunities and collaborations as we seek future sustaining funding opportunities.

We hope you will read the two-page summary, KAT6 Foundation's respective case study, to learn more about the progress and achievements of our foundation since being awarded $600,000 in grants from CZI.

ASSISTING FAMILIES

Empowered Grant Program

In 2024, we awarded 21 Empowered Grants to KAT6 individuals living in 12 different countries!



Caregivers have received awards to help pay for a wide range of therapies and assistive equipment including hippotherapy, hydrotherapy, physical therapy, tablets with communication software, eye glasses, chairs, adapted tricycles and a portable wheelchair ramp.

In 2025, we hope to support even more families. Join us by making a donation today!

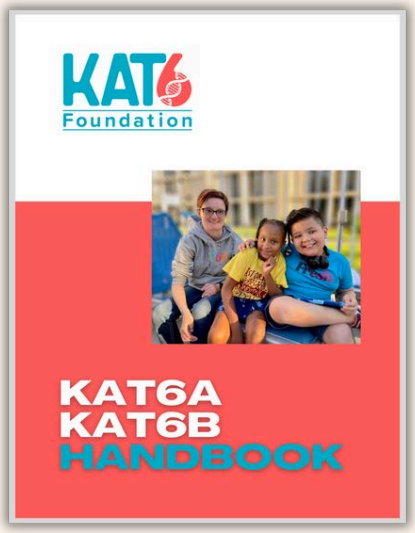
KAT6 Advocacy

The KAT6 Advocacy Group, has been very active, offering online presentations and workshops, and continues to work side by side with families on issues like guardianship and school advocacy. Their team also held a workshop at this year's KAT6 Conference, covering an array of important topics.

The KAT6 Handbook is available in seven languages, including Arabic, French, Hindi Italian, Portuguese and Spanish.

Our handbook continues to be a resource for parents, teachers, doctors and caregivers alike.

Download your copy today!



SUPPORT KAT6

We are incredibly grateful for all of the support we received throughout 2024. As we look forward to 2025, we are eager to continue raising awareness, supporting families and driving research to better inform our patient community.

With the funding ending from our CZI's Rare as One Network grant, it is critical that we increase our fundraising capacity to continue progressing as a foundation.

How You Can Support Our Foundation

- Support us on Giving Tuesday - the largest day of giving!
- Purchase KAT6 awareness merchandise from our shop.
- Ask your employer if they would consider supporting the KAT6 Foundation or enquire about a matching program.
- Share our posts on social media to spread awareness.
- Support our "I Care for Rare" fundraising campaign by creating your own fundraiser for your next marathon, 5K or celebratory milestone.
- Host an in-person or virtual walk for KATwalk 2025!

Every December, the KAT6 Foundation hosts its second largest fundraiser, the Annual Appeal. This year our goal is $275,000.

Funds from the Annual Appeal go towards advancing scientific research. We have several exciting studies we are hoping to support in 2025. Please consider making a donation today!

If you have any questions about making a donation, or would like to get involved, please reach out to Karen Ginsburg, Chair of Fundraising, kginsburg.lcsw@gmail.com.

OUR TEAM

2024 Board of Directors

Jordan Muller, Board Chair

Emile Najm, CEO

Karen Ginsburg, Chair of Fundraising

Typhaine Lejeune

Myria Normann

Andrew Rankin

Maureen Martini

David A. Woodbury, Board Secretary

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Science Advisor
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KAT6 Foundation

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Susan Hartung, Director
Sue Carpenter
Beth Woodbury
Amy Young

KATwalk Chair
Katie Bator

Empowered Grant Coordinator
Jessica Wiemann

Social Media Coordinator & Fundraising Assistant
Megan Stetts

Our foundation is run by a very small group of committed parents. We have only part-time professional support for scientific research and fundraising. The Board of the KAT6 Foundation is actively seeking new board members from the USA and internationally. We are especially seeking folks with experience with:

- Pharmaceuticals
- Scientific Research
- Medicine
- Marketing
- Fundraising
- Media and PR,
- Graphic/Web Design

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The Board meets every other month.
Please contact us at support@kat6a.org to join our team.