Vol. 3, NOV 2024

THE V-ATPASE VOICE

v-ATPase Alliance

#OneYearStronger

Truly Grateful for you.

Thanks to your support, look how far we've come in our first year!

2024 ONE YEAR STRONGER

v-ATPase Alliance

Nov 2023
Start of the v-ATPase Alliance

First Family Meeting

Jan 2024
Launch of The v-ATPase Voice

First Fundraiser

Feb 2024
Celebrating the Rare Disease Day

February 29th, 2024, The Rarest day of the year.

Mar 2024
Launch of v-ATPase Data Collection Program

Powered by Rare-X

April 2024
Community in Action

Launched our Community Fundraise Page

Sept 2024
Announced 1st Study for ATP6V1A

Announced the SAB

Oct 2024
Start offering free genetic testing for v-ATPase

Dec 16 2024
Upcoming....

1st Scientific Advisory Board meeting

HELP US LAUNCH 2025

WILL YO
YEAR-EN
HELP LA
2025?

MEMBERS OF

- Global Genes Global Advocacy Alliance
- REN Rare Epilepsy Network
- Epilepsy Foundation
- Milken Institute TRAIN — The Research Acceleration and Innovation Network

PARTNERS

- RARE-X — A Research Program of Global Genes
- citizen health
- probably genetic

SPEAKERS

- Global Health Forum
- Diagnosis of Rare Diseases: A Multidisciplinary Approach Webinar

CONFERENCES

- ultragenyx Bootcamp
- Week in Rare — RARE Advocacy Summit
- Milken Institute Global Conference
- Rare and Orphan Disease Programs — Critical Path Institute
- Milken Institute Future of Health Summit
- FundraisingAI Global Summit

PODCASTS

- Cruza Mento
- ILAE Sharp Waves
- DNA Today

SCIENTIFIC POSTERS PRESENTED

- ILAE Europe epilepsy congress

Donate

We truly appreciate it!

THE V-ATPASE VOICE

TABLE OF CONTENTS

Message from the Founders

One Year Stronger!

Dear Supporters and Friends,

As we enter the holiday season and the end of 2024 quickly draws near, we are reflecting on this first year as an organization. What started as determination to connect with other families facing the immense challenges of a rare disease diagnosis has transformed into a bold vision and a growing movement filled with hope, collaboration, and action. From the outset, our mission was clear: to push forward an aggressive research agenda aimed at developing treatments that can benefit all children with v-ATPase disorders. In this first year, we've tackled two foundational priorities.

We worked hard to expand our **community** by connecting more patient families, clinicians, and researchers. We heard patient's real-life stories underscoring the profound impact v-ATPase conditions have in children's lives, and we amplified our rare community voice bringing a sense of urgency and action to the research and medical professionals. We connected with many **researchers** over these 12 months (and have many more to connect with) laying the ground for a research collaborative network that can work together synergistically to deliver the most impactful research leading to novel treatments. We are incredibly proud to have established our **Scientific Advisory Board** (read more about this below) during our first year as an organization, marking our commitment to research excellence. This board's guidance and dedication will ensure that our efforts are strategically aligned to deliver the greatest impact. All together we're building a strong, engaged, and participative community that is the lifeblood of progress for better therapeutics.

Another key priority this year was to begin collecting critical human data to support research. Developing a comprehensive understanding of the natural history of v-ATPase disorders is an essential step in the drug development process. It allows researchers to define meaningful endpoints, track disease progression, and design clinical trials that accurately measure the impact of potential treatments. We **partnered with Global Genes** to leverage their RARE-X platform for collecting patient reported outcomes through standardized surveys delivered to our families. And we're excited to announce **a new partnership with Citizen Health** to centralize all medical records from every clinician and hospital that have treated v-ATPase children and share this health data securely with researchers working on v-ATPase diseases. These efforts can provide researchers with a fuller picture of the disease, helping them uncover patterns and design better treatments faster.

Message from the Founders

We also created meaningful bonds as members of the larger Rare Disease world, a world that is so rich with inspiration and reminds us of why we are starting all of this in the first place. As representatives of the v-ATPase Alliance at industry conferences, in partner organizations such as the **Rare Epilepsy Network**, and through mentorship programs like **FasterCures**, we had the opportunity to network with other parent-led patient advocacy groups who have paved the path before us and alongside us. Learning from their challenges, and hearing of their successes in research and the creation of viable treatments is the beacon of hope that keeps us moving forward. And we can't properly celebrate the year without acknowledging the hard work and nitty gritty details that are required to start something from scratch. The behind-the-scenes effort of **administrative tasks** like building a website, curating patient contact lists, learning financial reporting software, writing newsletters, managing social media, and attending online training sessions may not be glamorous, but they are the scaffolding that supports our mission and allows us to reach families and researchers globally.

One of the things we treasure the most and an important foundational pillar of this first year, was the community-building we experienced in our small, but mighty, group. By holding **global family meetings** over Zoom, we were able to connect in multiple languages and put faces to names. Stories became real and hit close to home when we saw the other children and young adults across the world living with v-ATPase disorders; when we connected and shared about our children, about the nuances of their conditions, and about what we hope to accomplish together.

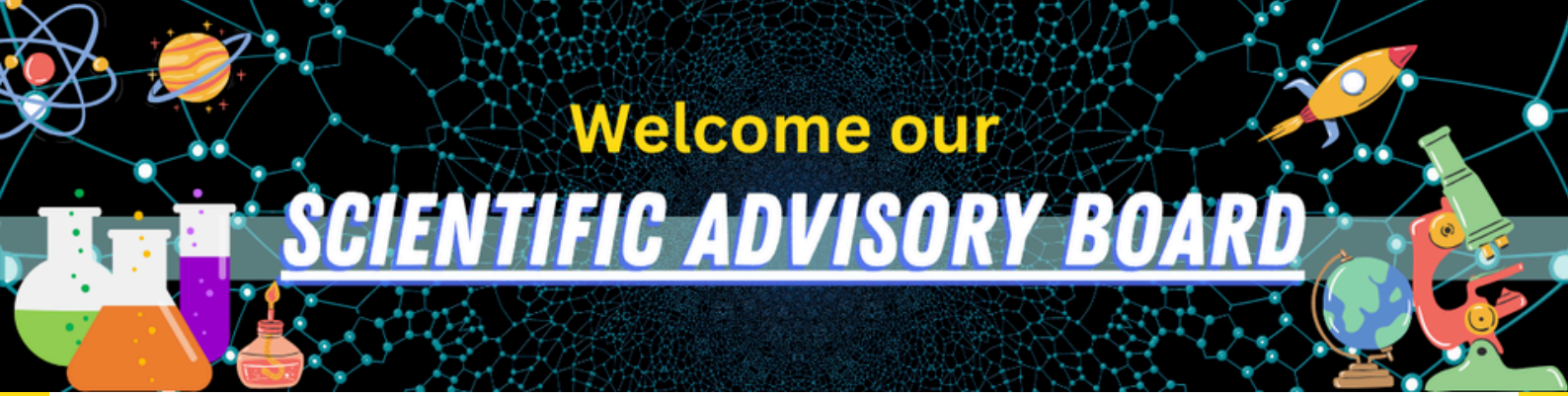
We also faced great heartache with the **loss of three of those children** since the formation of the Alliance. There is nothing more defeating than learning of another loss, and at the same time, it fuels our fire to advance our cause in a way that nothing else can. Their names will always be engraved in our hearts and memories of this first year as an organization.

Thank you to each and every one of you who has supported us: family, friends, neighbors, co-workers, community members. It is only through the giving of your time, your talents, and your treasure, that we were able to spend this first year building a strong foundation. In 2025 we will march forward with urgency and hope, to do all that we can to advance research and create positive change for every child affected by this condition.

Please join us as we move into the new year together and work to make a difference for these children and their families.

With hope,

Ana Rita Moreira
Luis Miguel Oliveira
Kristin Anderson



Meet Our Scientific Advisory Board: Guiding the Path to Breakthroughs

Advancing research and finding a cure for v-ATPase disorders is our ultimate goal. To guide us in this journey, we are proud to introduce our Scientific Advisory Board (SAB)—a group of distinguished experts who bring world-class knowledge, passion, and dedication to our cause.

The SAB serves as the Alliance's guiding light, ensuring that every research initiative, collaboration, and strategic decision is grounded in evidence-based and cutting-edge science. They help us identify the most promising scientific opportunities, evaluate innovative approaches, and prioritize research that has the potential to deliver real breakthroughs for patient families.

With their combined expertise in genetics, neurology, drug development, and innovative treatments, our SAB will lead the charge in uncovering breakthroughs and bridging the gap between cutting-edge science and the urgent needs of our patient community. Together, we are building a future where no family faces this journey alone.

Get to know our 5-star group which will be working alongside us to drive scientific breakthroughs for the children and families we serve.

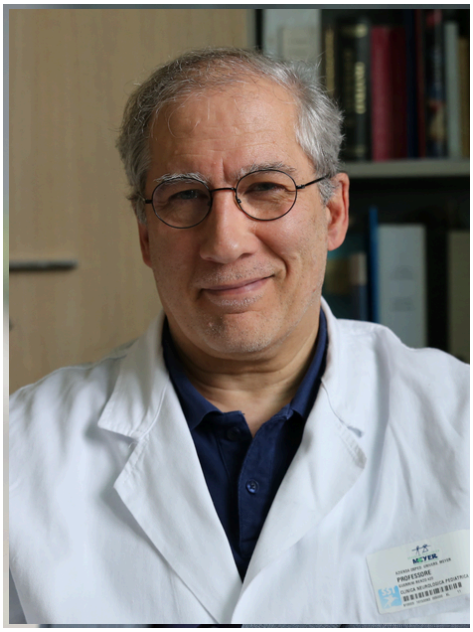
Dr. Bruce H. Morimoto, PhD

Dr. Bruce Morimoto is a seasoned drug development expert with over 25 years of experience in advancing therapies for neurological conditions like Parkinson's and Alzheimer's. As a consultant and advisor to leading biotech companies and foundations, including the Michael J. Fox Foundation, he has guided innovative treatments from concept to clinical trials. Dr. Morimoto's pivotal role in inspiring the creation of the v-ATPase Alliance reflects his belief in the potential of science to address even the rarest diseases.

Welcome our SCIENTIFIC ADVISORY BOARD

Dr. Magdalene Moran, PhD

Dr. Magdalene Moran, CEO of Topo Therapeutics, is a trailblazer in drug discovery for transmembrane protein targets, like v-ATPase, implicated in CNS, pain, and renal diseases. With a 20+ year career, she has successfully advanced multiple therapies from early research to clinical trials, most recently leading Caraway Therapeutics through its acquisition by Merck. Her ability to tackle complex scientific challenges mirrors our determination to confront the most difficult hurdles in v-ATPase research. Her leadership and expertise will be instrumental in advancing our efforts to develop treatments for v-ATPase-related conditions.



Professor Renzo Guerrini, MD

Prof. Renzo Guerrini is a globally recognized expert in pediatric epilepsy and neurogenetics, with a prolific research career including over 700 peer-reviewed publications. As Director of Neuroscience and Medical Genetics at the Children's Hospital A. Meyer, Florence, he has significantly advanced understanding of epilepsy genes, including ATP6V1A-related encephalopathies. Prof. Guerrini's longstanding collaboration with some of our families since 2018 has been instrumental in advancing our understanding of v-ATPase-related conditions and makes his role on our SAB deeply personal and impactful.

Welcome our SCIENTIFIC ADVISORY BOARD

Dr. Kasia Goljanek-Whysall, PhD

Dr. Kasia Goljanek-Whysall, Associate Professor at the University of Galway, is a leading researcher in non-coding RNAs and muscle wasting in aging and neuromuscular conditions. Since her daughter Niamh's diagnosis with a rare v-ATPase condition, Dr. Goljanek-Whysall has focused her expertise on understanding v-ATPase biology and advocating for rare disease research. Her dual role as a scientist and mother brings an invaluable perspective to our mission.

Dr. Ángel Aledo-Serrano, MD, PhD

Dr. Ángel Aledo-Serrano, neurologist and epileptologist, leads the Vithas Clinical Neuroscience Center in Madrid, where he specializes in neurogenetic and developmental disorders. A pioneer in identifying ATP6V0C-related encephalopathy, Dr. Aledo-Serrano's commitment to precision medicine and addressing unmet needs makes him an exceptional advocate for patients and families. His expertise and compassionate approach align perfectly with the v-ATPase Alliance's vision.

With their combined expertise in genetics, neurology, drug development, and innovative treatments, our SAB will lead the charge in uncovering breakthroughs and bridging the gap between cutting-edge science and the urgent needs of our patient community. Together, we are building a future where no family faces this journey alone.

We are deeply grateful for the time, energy, and passion these leaders bring to our shared mission of transforming lives. If you wish to join us in welcoming our SAB, send your messages of support by emailing us or posting on your social media with the hashtag #vATPaseAllianceSAB. Let's show our gratitude for these extraordinary leaders!

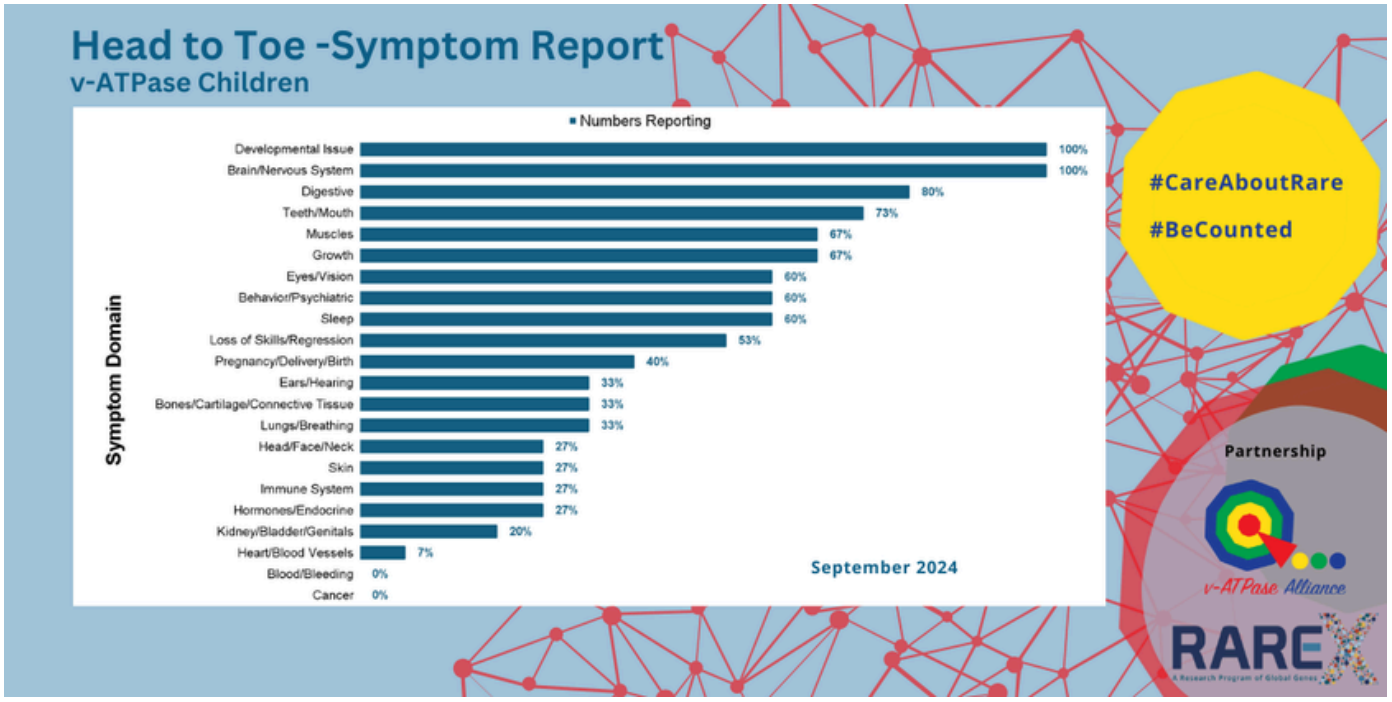
Data Collection Initiatives

ACTION NEEDED

From Human Data to Discoveries

Through our collaboration with Rare-X, we're gathering a systematic collection of standardized information and learning critical insights into the diverse and complex symptoms experienced by children with v-ATPase disorders.

Here's some of the things we've learned so far:

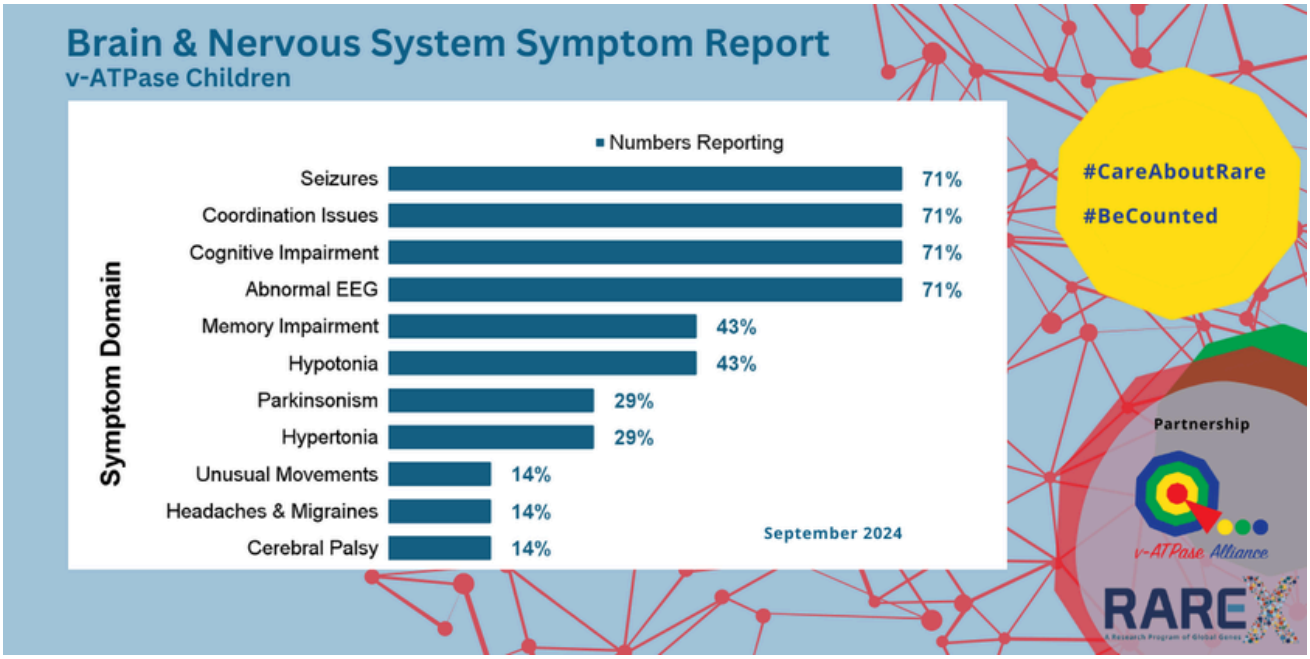


Issues with development and the central nervous system were reported in 100% of cases, emphasizing how extensive and significant they are among affected children. Seventy-one percent of participants reported seizures, coordination issues, cognitive impairment, and abnormal EEGs—conditions often diagnosed as early as 4 months old. Meanwhile, memory impairment and hypotonia (low muscle tone) were present in 43% of children, and typically identified between 3 and 6 years of age.

Continues

Data Collection Initiatives

ACTION NEEDED



Challenges with digestion (80%), teeth and mouth (73%), and muscle and growth impairments (67% each) further highlight the multifaceted nature of v-ATPase disorders. Roughly half of all participants reported feeding difficulties, abnormal baby teeth, and muscle dysfunction. Other commonly reported symptoms include vision challenges, behavioral concerns, and sleep difficulties. Over half of families also reported regression or loss of skills, underscoring the progressive nature of the condition in many cases.

These findings show the breadth and frequency of symptoms and provide a clearer picture of the systemic challenges faced by children with v-ATPase disorders, helping prioritizing areas for research and clinical focus.

Be part of the solution! Your voice and experiences are vital to driving progress. If you or your loved one is already participating in our study, we encourage you to continue reporting symptoms and responding to surveys - it's through your input that we uncover vital insights. If you haven't joined yet, now is the time! Enroll in the study today and contribute to the growing body of knowledge that's shaping the future of v-ATPase disorders research. Together, we can accelerate breakthroughs and bring hope to every family in our community.

Let's keep moving forward, one data point closer to a cure!

Want to learn more?
Watch our informative Webinar. And feel free to use our Page by Page Guide with notes to help you guide through the setup and consent forms. PDF available here.

Data Collection Initiatives

ACTION NEEDED

Expanding Horizons: Introducing Our Partnership with Citizen Health

The Rare-X study is opening a powerful window into the lives of families affected by v-ATPase disorders, capturing their experiences today and building a foundation to understand long-term disease progression. However, at the Alliance we always move with a sense or urgency and the reality is that we need answers faster. When lives are at stake, waiting passively years for developing a complete dataset isn't an option.

That's why we're thrilled to announce our new partnership with Citizen Health. This initiative will take a complementary approach by leveraging the wealth of information hidden in past medical records. By using cutting-edge AI, we'll extract meaningful patterns that can accelerate research and advance discoveries timely.

Citizen Health is also an excellent resource for families, providing a one stop shop to access your entire medical history and the ability to easily share it with medical professionals and during emergencies. Our partnership with Citizen Health empowers you and your care team to make informed decisions.

What's next?
We're finalizing all the details of this partnership and plan to launch in mid-December to early January, again amplifying the patient's experience and strengthening our mission to turn data into medical breakthroughs. In the meantime, you can check out this video for a sneak peek at Citizen Health's platform.

With the studies at Rare-X and Citizen Health working in tandem, we are forging a dynamic and comprehensive path forward. Together, we are one step closer to transforming lives.

RARE-X

CITIZEN HEALTH

KNOW MORE

DEEpOCEAN
A NEW WAVE OF HOPE

Exciting Opportunity: Phase 3 Trial for Bexicaserin: A Novel Treatment for Severe Epilepsies, Including Rare DEEs

Severe drug resistant epilepsy is a common complication for v-ATPase children. Families often go through long periods of testing different medications, doses and combinations of interventions, and far too many times go through periods where nothing works to alleviate the constant seizures affecting their children.

Now, a new hope we've been flagging since early this year is emerging - Bexicaserin, a potential groundbreaking therapy, is moving into its final testing stages. This innovative treatment could be a turning point for v-ATPase families in the fight against drug-resistant seizures.

Why This Trial is Unique?
Unlike traditional trials focusing on single conditions, the DEEp OCEAN study is the first of its kind to target a broad spectrum of Developmental and Epileptic Encephalopathies (DEEs). This “basket trial” design could open doors for underrepresented conditions, like v-ATPase disorders, providing a much-needed opportunity for patients with less common DEEs to access advanced treatment options.

In earlier trials, Bexicaserin demonstrated:

- 59.8% median reduction in motor seizures, compared to 17.4% with placebo
- Significant improvement across DEEs:
  - 74.6% reduction in Dravet Syndrome
  - 50.8% in Lennox-Gastaut Syndrome
  - 65.5% in other DEEs (where v-ATPase would be included)

Who Can Participate?
The Phase 3 trial will enroll individuals aged 2 to 65 with DEEs who experienced at least four motor seizures in a recent four-week period and will take place at ~80 sites across the US, Europe, and Australia. Participants will also have the opportunity to continue treatment through a 52-week open-label extension.

This trial represents a beacon of hope for v-ATPase families seeking novel solutions for their children. Speak with your doctor to explore if your child might qualify and prepare for enrollment. More information on the study website.

For questions or further information, feel free to reach out to us. Together, we can continue advocating for transformative breakthroughs in v-ATPase disorders research and care.

MD TALKS

Luca Bartolini, MD, PhD and Ricardo Morcos, MD.

This fall we had the incredible opportunity to hear from two of the scientists working closest on the v-ATPase genes.

September!
In September, Dr. Luca Bartolini spoke with ATP6V1A families regarding an opportunity to participate in a two-year natural history study evaluating the impact of iron supplementation in **ATP6V1A** encephalopathies. It was the first time that parents, treating physicians, and researchers were on a joint call together, and it marked the start of what we hope will be a very collaborative and invested community moving forward. Families with children affected by ATP6V1A mutations who are interested in the study still have time to enroll and should contact us.

October!
In October, Dr. Ricardo Morcos addressed a global audience of v-ATPase families and physicians, sharing the latest findings from his research. His talk covered key insights on genotype/phenotype correlations and the most effective anti-epileptic medications for the condition. While more detailed information will be available once the research paper is published, this session provided valuable knowledge for all attendees. We are deeply grateful for the dedication and hard work of Dr. Morcos and his colleagues in studying and illuminating the **ATP6V0C** variants.

Next Year!
Early next year we will welcome Dr. Kasia Whysall and Prof. Nicholas Allen who will detail the plans for a new study on **ATP6V0A1** variants. Stay tuned for details to be released on that virtual meeting!

Advocacy ALERT

Our Voice, Our Impact: Advancing v-ATPase Research

We've made significant strides in advocating for increased research funding and support for v-ATPase disorders related initiatives.

We took action in pressing the House of Representatives to pass the Bill on Rare Pediatric Disease Drug Development and the Give Kids a Change Act, legislation that includes policies aimed at spurring progress in therapy development for rare diseases, which includes a 5-year renewal of the **Rare Pediatric Priority Review Voucher Program.** This program incentivizes drug companies to develop treatments for rare diseases, leading to almost 40 life-changing therapies already approved. The continuation of this Program is critical for our medical and scientific advancements on v-ATPase conditions.

v-ATPase Alliance joined forces with 150 epilepsy organizations, to advocate for increased funding and support for **Epilepsy Research**. We actively participated in initiatives such as:

- Epilepsy Community Letter: We urged the U.S. Department of Health and Human Service to include an epilepsy objective in Healthy People 2030. https://odphp.health.gov/healthypeople
- American Epilepsy Society/International League Against Epilepsy: We supported recommendations for addressing epilepsy healthcare disparities, such as barriers to accessing epilepsy health care, clinical care, research, education and advocacy.
- The U.S. House Committee on Appropriations: We advocated for increased funding by:
  - $48.9 million funding for National Institutes of Health (NIH) epilepsy research,
  - $680.4 million for the BRAIN Initiative,
  - $541 million for the All of Us Research Program for Fiscal Year 2025.

Your Support is Crucial
Empower the v-ATPase community: Your voice and generosity can change the future for children facing v-ATPase disorders. Join us in this fight - donate, share, or advocate today.

Our SUPER HEROES in Disguise

Halloween 2024

Life holds numerous challenges for children and families with v-ATPase conditions, but there are many moments of joy and old fashioned fun as well. It filled our hearts with happiness to see photos rolling in from around the world of our heroes in disguise, enjoying the festivities on Halloween!

Remington Penley

In Memoriam

With broken hearts we share that our v-ATPase community lost another warrior earlier this month. **Remington Penley** was born on May 25, 2020 and diagnosed with v-ATPase Encephalopathy shortly after. He lived in Indianapolis and is survived by his parents and siblings. He passed away suddenly but peacefully next to his loving mother, Morgan, on November 13, 2024. No family should endure the loss of a child. We are more determined than ever to advance our mission and expedite research in our quest to find treatments for our children. We urgently need the support of our global community to help us in this effort. If you feel moved to make a donation in honor of Remington or to volunteer your time with our organization, please click here: Get Involved

DONATE

Community in Action

Team Jacob Runs for Rare

In an inspiring show of unity and determination, the friends and neighbors of one Alliance family have formed Team Jacob to honor a young boy with a v-ATPase disorder. This dedicated group is training rigorously for the January 2025 Chevron Houston Marathon and 5k, driven by a shared goal of increasing awareness of this ultra-rare disease and raising critical funds for the v-ATPase Alliance. The marathon symbolizes the long, arduous journey of caring for a child with lifelong disabilities—an endeavor that demands unwavering endurance, strength, and community support.

Adding a remarkable element to this effort, Jacob's father, Dave, will be pushing him in a specialized jogging stroller for the entire half marathon, determined to defend their title as the fastest male duo. By participating in this event, Team Jacob not only pays tribute to the spirit of a young boy but also highlights the collective effort required to make a difference. Their commitment represents the importance of coming together to advocate for those affected by v-ATPase disorders. Donate to Team Jacob and cheer them on as they Run for Rare!

Community in Action

v-ATPase Awareness Around the World

Giulia Metta, the devoted mother of 10 year old Francesca, recently shared her heartfelt journey on an Italian podcast, discussing her daughter's battle with a v-ATPase condition. She recounted the challenging path to Francesca's diagnosis, which was finally confirmed at the age of five by our SAB member Dr. Renzo Guerrini. Giulia spoke about the immense effort involved in providing specialized therapies and care to meet all of Francesca's needs, and the isolation that can happen as a result. Additionally, she highlighted her recent accomplishment of writing a children's book aimed at teaching kindness and inclusion for children with disabilities. The book is a testament to her dedication to creating a more understanding world. For those interested in hearing her full story, the podcast interview is available on YouTube with an option for auto-translation into various languages.

Have an idea for how you can fundraise for v-ATPase Alliance in your community? Let's talk!

GETINVOLVED

Get Involved

We need your support!

Finding cures to diseases is a long road.
Each action you take will help us move towards our goals.
Be involved.

Here is a short list of quick actions you can take:

Email to 20+ friends

Our handle is **@vatpasealliance** across all platforms: Facebook, Instagram, LinkedIn, X (Twitter), Bsky, Threads.

Unite Families

Advance Scientific Research

Raise Awareness

CONTACT US

www.vatpasealliance.org
@vatpasealliance

REGISTERED 501(C)(3) NONPROFIT ORGANIZATION.

v-ATPase Alliance