COHEN SYNDROME
RESEARCH FOUNDATION

Request for Applications (RFA) for VPS13B (Cohen Syndrome) Research:

Cellular Models, Organismal Models, Protein Function, Biomarkers, and Drug-Delivery Systems

Issued by: Cohen Syndrome Research Foundation (CSRF)
Letter of Intent Due Date: *January 16, 2026*
Application Due Date: *April 3, 2026*

PURPOSE

The Cohen Syndrome Research Foundation (CSRF) invites Letters of Intent for research projects that advance the understanding and treatment of Cohen Syndrome. Applications are encouraged in any of the following **four priority domains**, individually or in combination:

1. **Model Development and Characterization**
2. **VPS13B Protein Structure and Function**
3. **Biomarker Discovery and Validation**
4. **Therapeutic and Drug-Delivery Innovation**

Proposed projects should generate foundational knowledge, robust model systems, mechanistic insights, biomarkers, or translational strategies that materially accelerate therapeutic development for Cohen Syndrome.

BACKGROUND

Cohen Syndrome is a rare autosomal recessive disorder caused by mutations in the *VPS13B* gene. Clinical manifestations may include developmental delay, intellectual disability, microcephaly, hypotonia, neutropenia, retinal dystrophy, and distinctive craniofacial features. There are currently no targeted therapies.

Progress has been limited by critical gaps:

- Insufficient understanding of VPS13B protein structure, function, interactions, glycosylation, and lipid-transport roles
- Lack of cellular, retinal, and whole-organism models that accurately replicate human disease biology
- Absence of validated biomarkers for monitoring disease progression, pathway dysfunction, or therapeutic efficacy

- Limited availability of delivery systems capable of transporting large gene constructs or protein-targeted therapies to relevant tissues

This RFA supports research across four interconnected domains essential for translational progress and future therapy readiness.

RESEARCH OBJECTIVES

Projects that broaden the Cohen Syndrome research community—including those supporting early-career investigators and post-doctoral trainees—are strongly encouraged.

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1. Development and Validation of Cellular Models of VPS13B Dysfunction

- Generate gene-edited cell lines, patient-derived iPSCs, and retinal/neural/other organoid models that recapitulate VPS13B-associated molecular, structural, and functional abnormalities.
- Characterize disrupted pathways (vesicular trafficking, glycosylation, Golgi integrity, lipid transport).
- Evaluate suitability for mechanistic studies, biomarker discovery, and therapeutic screening.

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2. Development of Retinal Cell Models for Mechanistic Studies and Drug Discovery

- Create retinal organoids, RPE models, or photoreceptor systems exhibiting VPS13B-associated phenotypes.
- Define structural, electrophysiological, metabolic, and proteomic abnormalities.
- Use models as platforms for:
    - Drug screening
    - Biomarker discovery
    - Preclinical therapeutic evaluation

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3. VPS13B Protein Structure and Function

- Define VPS13B protein architecture and domain organization, including glycosylation and biochemical properties.

- Identify and validate protein–protein interaction partners and VPS13B-dependent pathways.
- Clarify VPS13B's role in:
    - Golgi organization
    - Vesicle trafficking
    - Lipid transfer and membrane dynamics
- Map functional domains to disease-relevant phenotypes.
- Provide mechanistic insights enabling therapeutic target identification.

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4. Biomarker Discovery and Validation

- Identify molecular, biochemical, imaging, electrophysiological, or functional biomarkers reflecting VPS13B dysfunction.
- Develop and validate biomarker assays in cellular, retinal, and whole-organism models.
- Evaluate biomarkers for:
    - Sensitivity
    - Specificity
    - Reproducibility
    - Translational potential
- Correlate biomarkers with clinical features of Cohen Syndrome.
- Establish biomarkers suitable for use as preclinical efficacy endpoints and for future clinical trial readiness.

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5. Development of Translatable Whole-Organism Models

(e.g., zebrafish or other non-mammalian species enabling high-throughput biology)

- Generate organismal models with targeted *VPS13B* disruption or mutation.
- Characterize developmental, retinal, hematologic, immunologic, and behavioral phenotypes.
- Establish high-throughput in vivo drug screening pipelines.
- Validate concordance between model phenotypes, biomarkers, and human disease features.

6. Drug-Delivery Systems for Large Gene Therapy Vectors and Other Therapeutic Modalities

- Identify small molecule (?) or other therapy approaches to treat Cohen Syndrome
- Develop delivery platforms capable of transporting full-length VPS13B or split-gene constructs (dual AAV, oversized vectors).
- Innovate nanoparticle, lipid nanoparticle (LNP), exosome-based, polymer-based, or hybrid delivery systems.
- Optimize tissue targeting for retina, CNS, immune tissues, and other organs implicated in Cohen Syndrome.
- Characterize preclinical efficacy in model systems

FUNDING AND DURATION

- **Award Amount:** $30,000–$120,000 per year
- **Project Duration:** Up to 2 years
- Multiple awards anticipated depending on merit and scope.

ELIGIBILITY CRITERIA

- Applicants must be affiliated with an academic, non-profit, or government research institution.
- **Indirect/overhead costs are not permitted.**
- International applicants are eligible.
- Collaborative and multi-institutional proposals are encouraged.
- Experience with rare diseases, VPS13-family proteins, lipid trafficking, zebrafish, and organoid modeling is valuable but not required.

LETTERS OF INTENT

LOIs should include:

- Brief project summary

- Key scientific objectives
- PI and team member qualifications
- Maximum 3 pages

Deadline: *January 16, 2026*

APPLICATION REQUIREMENTS

Applications must include:

- Scientific Abstract (≤ 300 words)
- Research Plan (≤ 5 pages) describing rationale, approach, milestones, and anticipated impact
- Budget and Justification
- Biographical Sketches for key personnel
- Letters of Support, if applicable
- Resource Sharing Plan (see below)

Preference may be given to teams with high FTE commitment from key scientific personnel.

REPORTING REQUIREMENTS

Awardees must provide:

- Quarterly progress reports
- Participation in biannual virtual investigator meetings
- Final report summarizing outcomes and next steps

Acknowledgement of CSRF support on publications and presentations

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RESOURCE SHARING AND DISSEMINATION REQUIREMENTS

To maximize scientific progress and accelerate therapeutic development, all awardees must ensure that tools, models, and datasets generated with CSRF support are made accessible to the scientific community.

Awardees must:

Share Models and Tools

- Deposit cell lines, iPSCs, organoids, and other cellular models into recognized repositories (e.g., Addgene, Coriell, Jackson Laboratory, ZIRC) whenever feasible.
- Make whole-organism models publicly available through established repositories.
- Share biochemical tools, plasmids, protein constructs, and assays under appropriate Material Transfer Agreements.

Share Data, Protocols, and Analytic Pipelines

- Deposit datasets, analytic code, and protocols in open platforms (e.g., GitHub, Zenodo, Figshare, protocols.io).
- Provide detailed metadata ensuring reproducibility.

Respond to Reasonable Requests

- Make tools and data available to other investigators upon request, under reasonable terms.

Include a Resource-Sharing Plan

Applicants must describe:

- What will be shared
- How and when dissemination will occur
- Intended repositories and distribution mechanisms

Failure to comply may affect eligibility for future CSRF funding.

REVIEW CRITERIA

Applications will be evaluated on:

- Scientific merit, rigor, and innovation
- Feasibility and qualifications of investigator(s)
- Relevance to VPS13B/Cohen Syndrome biology
- Potential translational impact, including biomarker or therapeutic relevance
- Contribution to models, tools, or delivery platforms beneficial to the broader community

- Strength and clarity of the Resource-Sharing Plan

KEY DATES

- **Letter of Intent Deadline:** *January 16, 2026*
- **Notification of invitation to submit full application:** February 2, 2026
- **Application Deadline:** *April 3, 2026*
- **Anticipated Award Notification:** *May 15, 2026*
- **Anticipated Project Start Date:** *July 1, 2026*

SUBMISSION INSTRUCTIONS

Submit all materials as one combined PDF to: **ashley@csrfoundation.org**

For questions, contact:
ashley@csrfoundation.org
Cohen Syndrome Research Foundation
Website: **csrfoundation.org**

CLOSING STATEMENT

This RFA reflects CSRF's commitment to advancing mechanistic understanding, building shared scientific infrastructure, developing biomarkers, and accelerating the discovery and delivery of meaningful therapies for individuals living with Cohen Syndrome.