Request for Applications (RFA): Career Training Program for Basic and Translational Laboratory Scientists focused on NF1

Program Title: NF1 Basic and Translational Laboratory Scholars Program

RFA Release Date: July 1, 2025
Letter of Intent Due: October 20, 2025
Full Application Due: November 21, 2025
Notification Date: January 30, 2026
Funding Start Date: May/June 2026
Project Period: 2-3 years
Funding Agency: Neurofibromatosis Therapeutic Acceleration Program (NTAP)

The Neurofibromatosis (NF) community has long benefited from the critical contributions of basic and translational scientists. Recognizing the need to cultivate the next generation of leaders in NF research, the CDMRP Neurofibromatosis Research Program launched the Neurofibromatosis Research Academy in 2024. Unfortunately, with the termination of funding for the 2025 NF CDMRP, this important program has been paused. To address the time-sensitive need to sustain a pipeline of leadership in NF1-focused basic and translational science now, the Neurofibromatosis Therapeutic Acceleration Program (NTAP) at Johns Hopkins University is launching an interim Scholars Program: The **NTAP NF1 Basic and Translational Laboratory Scholars Program**. This initiative is designed to support exceptional early-career scientists dedicated to advancing NF1 research at this moment in time. While NTAP remains hopeful and expectant that the CDMRP Neurofibromatosis Research Program will be reinstated and the full scope of the NF Research Academy can resume in the near future, this provisional program aims to provide immediate support to exceptionally promising researchers invested in NF1. When appropriate and much needed programs are reinstated through the federal government mechanisms, this program will be terminated.

The **NTAP NF1 Basic and Translational Laboratory Scholars Program** will complement and leverage the Children's Tumor Foundation's Young Investigator Award, which supports predoctoral and postdoctoral scientists. This award mechanism is specifically intended to assist early-stage research faculty (or faculty equivalent positions; please see below for details) as they establish independent laboratories and accelerate their NF1-focused research programs. As such, priority review will be given to investigators who have successfully been awarded and completed a Children's Tumor Foundation's Young Investigator Award (or are nearing completion) and in their first full-time faculty (or faculty equivalent) position.

Scholars will receive comprehensive mentorship, salary support, and project funding. They will be embedded in multidisciplinary research environments, collaborate closely with clinicians, and participate in professional development activities. The goal is to prepare them for leadership roles in academic, government, or industry research settings, all with a focus on improving outcomes for individuals living with NF1. Although all topic areas pertinent to NF1 are welcome, NTAP has a particular emphasis on research that seeks to understand cutaneous neurofibromas as well as cognitive function and development in the setting of NF1.

The NF1 Basic and Translational Laboratory Scholars Program will launch with this request for applications on July 1, 2025. The funded PhD or PhD equivalent scientists are expected to start their work as members of the program in May/June 2026. Award periods are expected to be within 2026-2029. It is uncertain if this mechanism for career development will be available in future years, as this RFA is responding to what is expected to be a time-limited gap in funding opportunities for highly valuable and needed NF1 basic and translational science.

The objectives of the NF1 Basic and Translational Laboratory Scholars Program include:

- Foster the development of a diverse community of PhD (or equivalent doctoral training) scientists committed to discovery and translational NF1-focused research
- Accelerate successful completion of NF1-related projects and leverage results to accelerate expansion of NF1-focused research
- Cultivate skills in science communication, grant writing, regulatory considerations, team-based research, and community engagement
- Provide robust, multidisciplinary mentorship in scientific, career, and leadership development
- Enhance scholars' competitiveness for independent research positions and funding (e.g., R01, U01, program project awards, foundation awards)

The key eligibility criteria include:

- PhD (or equivalent doctoral training) trained laboratory scientists within 5 years of their first faculty (or full-time post-training professional) appointment. The candidate must have already accepted/negotiated/started their first faculty position. The candidate can be at a non-profit research focused institute, including federal and state research institutes. With appropriate justification, candidates at for-profit research entities will be considered.
- Evidence of a full-time position (faculty or equivalent) that supports the activities of the NF1 Basic and Translational Laboratory Scholars Program
- A track record of academic and research excellence.
- A clearly demonstrated and expressed commitment to NF1-focused research.
- A mentorship committee, including a lead mentor with expertise in NF1.

- Institutional support from an eligible research organization (e.g., academic medical center, non-profit research institute, or similar), including a commitment to provide appropriate facilities, administrative resources, and mentorship or oversight necessary for the successful completion of the proposed research. As above, with appropriate institutional support and justification, candidates at for-profit research entities will be considered.
- Investigators who have successfully completed a Children's Tumor Foundation's Young Investigator Award are given priority review, although this is not an eligibility requirement.

The award will consist of:

- Up to $100,000 per year for laboratory personnel, inclusive of fringe benefits*
- Research supplies support: maximum of $30,000 per year
- Travel/Education/Program building: $5,000 per year
- Mentorship stipend: $10,000 per year
- Up to three years
- 10% IDC rate

*With further justification and discussion, this could be applied, in part, to Primary Investigator (PI) salary & benefits.
*NTAP supports personnel salary within the limits of the NIH salary cap (https://grants.nih.gov/grants/policy/salcap_summary.htm).

Awards are 2-3 years in duration (appropriate detailed justification for the years of support requested is required). It is anticipated that there will be 1-2 awardees, depending on the competitiveness of the applicants.

Letter of Intent:

Investigators who are interested in submitting a proposal should read the requirements of funding (Appendix 1). If in agreement with all NTAP policies, please submit a letter of intent by completing the form on ProposalCentral no later than 11:59pm EST on October 20, 2025. The letter of intent is used only to identify reviewers needed to enable rapid review after submission of the full proposal (see Appendix 2).

Key Elements in the Full Application Package (see Appendix 2):

1. Cover Letter (1 page)

2. Candidate Statement (2 pages): Highlight your history of excellence in basic or translational research, career goals, commitment to NF1 research and how the NF1 Basic and Translational Laboratory Scholars Program will support your goals of achieving meaningful contributions to the NF1 field.

3. Research Proposal (3–5 pages): Including hypothesis, aims, significance, methodology, statistical considerations, and potential for advancing the NF1 field.

4. Mentoring Plan (2 pages): Primary mentor's role, justification of their involvement, the role of additional mentors, and how the contribution of mentors will be coordinated to achieve the career goals.

5. Letters of Support:

- Primary mentor (required)
- Additional collaborator/mentor (optional)
- Institutional endorsement and support (required)

6. CV/Biosketch of applicant, mentor(s), all key personnel

7. Budget and Justification (4 pages)

Application - All applications, review processes, and post-award management procedures are done through ProposalCentral (PC). https://proposalcentral.com/

- To start the application, please log in PC with "Applicant or Awardee" role via the link above. After clicking the gray Grant Opportunities tab in the upper right, select the grant maker you're looking for (e.g., JHU-NTAP---Neurofibromatosis Therapeutic Acceleration Program) from the drop-down menu at the top of the page.
- To download the instructions of NF1 Basic and Translational Laboratory Scholars Program, click the document symbol next "Open-RFP."
- To start the grant application, click "Apply Now" in the row entitled "Open-RFP"

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  - Please follow the PC directions for each section, completing each as thoroughly as possible (see Appendix 2 below).
  - The research proposal section is limited to 5 pages total, including background, hypothesis & rationale, significance & potential for human health impact, specific aims, preliminary data, experimental design, project goals, and anticipated timeline. This brief application format is intended to focus the application on core information and enable rapid peer review.
  - Additional details requested by reviews will be conveyed to the investigator(s) during the review and decision process.
    1. For questions about using the PC system - Please check the online "help" or contact customer service link in the top right corner of PC page, email (pcsupport@altum.com) or call (1-800-875-2562).
    2. For questions about the contents of the application, please email (info@n-tap.org) to the NTAP.

Review – All applications will undergo initial review by NTAP staff, and if the application is complete, it will be forwarded to a review panel (minimum of 3, maximum of 5 reviewers) arranged specifically for this RFA. Reviewers are senior investigators recruited across disciplines pertinent to NF1 research who have expertise in basic or translational science. Some reviewers will also have expertise in NF1. All reviewers will be under a confidentiality agreement with NTAP to ensure the privacy of ideas and data within applications.

Reviewers are instructed to evaluate each application for:

1. The strength of the applicants' research history, including research training, evidence of commitment to basic or translational research, publications, and other demonstrations of scientific contributions and excellence.
2. The strength of the candidate statement including clearly delineated plans to acquire critical research and leadership skills, structured activities that serve the career and project goals, plans for becoming a scientific leader in the NF1 field and in science in general, and a clear vision of the career trajectory in NF1 research after completion of the program.
3. The strength of the research proposal including feasibility and innovation of the scientific approach, clarity of the experimental details, including endpoints and deliverables, potential impact for NF1, as well as the potential to support future scientific endeavors for the Scholar, and ability to recognize and address problems that may arise.
4. The strength and applicability of the mentorship team and mentorship plan, the commitment of the mentors to the applicant and their individual, specific mentorship responsibilities, and the details for how interactions across the mentorship team will occur and the goals of such interactions.
5. Appropriateness of budget and budget justification, including complementary awards and support.
6. Projects that highlight collaboration across multiple areas of expertise are encouraged and prioritized.

Decision

Detailed outcomes of the review, including quantitative and qualitative assessments, are shared with the applicant via email.

The applications advanced for consideration of funding will be notified by January 30, 2026 (Friday). Please note, applicants advanced for consideration of funding are often asked to address comments and revise their proposal based on the reviewers' comments and suggestions prior to finalizing a project plan, scope of work, deliverables, timeline, budget, and budget justification, and data sharing plan that will comprise the final project award. Such revisions occur as part of a constructive, collaborative process between NTAP leadership, the reviewer team, and the applicant and their team.

Appendix 1: NTAP Policies

Funding model – NTAP uses a milestone and deliverable based funding model. If a proposal is selected for funding the investigator is asked to finalize a milestone and deliverable schedule incorporating feedback from the reviewers and in collaboration with NTAP staff. Each milestone has a budget amount associated with it. Payment is made by NTAP to the investigator/institution based on evidence that the milestone has been completed and that the key raw data pre-agreed upon has been filed.

Data sharing policy – A core mission of NTAP is the open and timely sharing of results (http://www.n-tap.org/mission-statement/). As such, all NTAP funded investigators are required to upload key raw data to the Sage Bionetworks' Synapse Platform. All data uploaded onto Synapse is confidential and visible only to the contributing investigators, NTAP leaders and limited Sage staff until it is ready to be shared with designated collaborators or released to the public with permission of the investigative team after the period of embargo (generally 12 months from the end of project).

Appendix 2: Detailed instructions for applying for the NTAP Scholars Program for Discovery and Translational Laboratory Scientists focused on NF1 via ProposalCentral

Letter of Intent (LOI): A LOI is required and is intended to assist NTAP members in building an appropriate reviewer panel to enable rapid, expert review of submitted proposals. The submission of LOI and full application is done through the ProposalCentral (PC).

For questions about using the PC system, please check the online "help" or contact customer service link in the top right corner of PC page, email (pcsupport@altum.com) or call (1-800-875-2562).

1. Go to https://proposalcentral.com/ and login with the "Applicant or Awardee." If you do not have an account, please click "Need an account?" or refer to the "How to Register as a ProposalCentral user" tutorial or use the following link to create an account Register. Once you have created an account, you will receive an email with a confirmation number.
2. Click the gray Grant Opportunities tab in the upper right.
3. Select the grant maker you're looking for (e.g., JHU-NTAP---Neurofibromatosis Therapeutic Acceleration Program) from the drop-down menu at the top of the page.
4. To download the instruction of NF1 Basic and Translational Laboratory Scholars Program, click document symbol next "Open-RFP."
5. To start the grant application, click "Apply Now." You can also download the instruction of NF1 Basic and Translational Laboratory Scholars Program by click "Program Guidelines" once the application has opened.
6. Please follow the ProposalCentral directions for each section, completing (sections #1 - #10) as thoroughly as possible.

   Section #1: Project title section

   a. Project title (Do not exceed 200 characters)
   b. Choose sub-program (select NF1 Basic and Translational Laboratory Scholars Program)
   c. Click Save.
   d. You can now navigate to any section with the proposal to add data and/or files and review the information

   Section #7: Attach letter of intent document section

   Please upload LOI document. The LOI document consists of a statement that outlines the proposed scientific strategy of the study (or studies) of interest. Please include the three elements (rationale, primary goal(s) of the project, specific aims) in the LOI document (Maximum 2 pages).

7. Click the "Validate" button to check for any missing required information or files.

8. After you complete all the LOI sections, click Print button to review the application package.
9. To submit your LOI, please click the “Submit” button.

The letter of intent must be submitted by midnight Eastern Standard Time on **October 20, 2025**.

Full Proposal: The submission of full proposal is done through PC.

1. Once your Letter of Intent is Approved, please access the full proposal by clicking the identifier number on your Home tab on PC.
2. To download the instruction of NF1 Basic and Translational Laboratory Scholars Program, click document symbol next “Open-RFP.”
3. To start the grant application, click “Apply Now.” You can also download the instruction of NF1 Basic and Translational Laboratory Scholars Program by click “Program Guidelines” once the application has opened.
4. Please follow the ProposalCentral directions for each section, completing (sections #1 - #14) as thoroughly as possible. The contents in the LOI will show up automatically in the full application site. If you need, you can modify any section’s contents in the full application site.

<u>Below are the proposal sections in the ProposalCentral. Please fill it out or upload (PDF or Word document) attachments to the application workspace in ProposalCentral.</u>

1. Title page
    a. Project title (Do not exceed 200 characters)
    b. Resubmission (Yes or No)
    Click Save.
    You can now navigate to any section with the proposal to add data and/or files and review the information
2. Download Templates & Instructions
3. Enable other users to access this proposal: Access permissions
4. Applicant: Name and ORCID ID of Applicant
5. Institution: PI’s institution and Signing Official
6. Key Personnel/Collaborators
7. Letter of Support & Authorized Official: at least two (Primary mentor, Authorized Official for the University or Institute)
8. Abstracts and Keywords
    a. Lay summary (Do not exceed 3,000 characters including spaces)
    b. Technical audience (Do not exceed 3,000 characters including spaces)
9. Budget Summary
    a. Personnel Costs (Salaries & Wages, Fringe Benefits) per each year
    b. Non-personnel Costs (Research Costs, Travel/Education/Program building Costs, Mentor Stipend, Other Expenses) per each year
    c. Indirect Costs (up to 10% of the direct costs)
10. Organization Assurances: Human Subjects & Vertebrate Animals

11. Proposal Attachments
    a. Cover letter (1 page)
    b. Candidate Statement (2 pages): Career goals, commitment to NF1 translational research
    c. Proposal (maximum 5 pages) - Scientific Strategy (Outline of proposed scientific strategy; typewritten, single-spaced in typeface no smaller than Arial 11-point and 0.5” margins).
        - Background
        - Hypothesis & Rationale
        - Significance & Potential for human health impact
        - Specific Aims
        - Preliminary Data
        - Experimental Design
        - Project Goals
        - Anticipated Timeline
    d. Citations or References (no page limit)
    e. Mentoring Plan (2 pages): Primary mentor’s role, training goals, timeline
    f. Proposed Scope of Work (refer to sample Appendix 3 below)
    g. Proposed Milestones/Deliverable Schedule relative to the Budget (refer to sample in Appendix 5)
    h. Budget and Budget Justification (maximum 4 pages) (refer to sample in Appendix 6)
    i. CV or NIH Biosketch for applicant, primary mentor, and all key personnel
    j. Other support of applicant and key personnel (refer to sample in Appendix 7)
12. Validate: to check for any missing required information or files
13. Signature Page(s): After you complete all the proposal sections, click Print button to review the application package. Please sign by typing your name, then click “Sign.”
14. To submit your proposal, please click the “Submit” button.

For questions about using the PC system, please check the online “help” or contact customer service link in the top right corner of PC page, email (pcsupport@altum.com) or call (1-800-875-2562).

For questions about the contents of the application, please email (info@ntap.org) to the NTAP.

The full proposal is due at midnight Eastern Standard Time on **November 21, 2025**.

Appendix 3: Example of Scope of Work (Statement of Work)

I. Scope of Work

INSTITUTION has performed an initial library screen of compounds against plexiform neurofibroma (PN) cells growing on 1536-well plates using Dark-n-Glo to assay proliferation. One surprising and interesting result from that work is that there is a group of compounds that show altered response in cells that express DGDP.

INSTITUTION X has shipped a set of 20 selected compounds to State University with the expectation that we will perform 5D and Sun Screen assays of the results from the initial screens. We believe that this collaborative approach will both provide important scientific knowledge and practical application. The latter will result from the development of a 96-well format Dark-n-Glo assay procedure that will be useful for general confirmatory testing. We expect that these results should directly reproduce those of the initial screen, i.e., that the outcome is independent of the platform (1536-well vs. 96-well) or performance site (INSTITUTION X vs. State University). Further, we will begin transition to a 5D culture, 96-well format assay that we predict will advance from confirmation to a sunscreen of initial results. We hypothesize that cells growing in 5D matrices, as compared to those growing in 2D on plastic, will exhibit drug sensitivity that is a better predictor of eventual clinical effectiveness.

The primary goals are: (1) To perform an initial sunscreen assay of 20 compounds (selected and provided by INSTITUTION X) against PN cells in a 96-well format, and (2) To establish a secondary screening protocol of 5D PN cell cultures in a 96-well format to assay 20 compounds (selected and provided by INSTITUTION X).

II. Project Goals

The project goals are…

III. Specific Aims

Aim 1: Test…
Aim 2: Determine…

Appendix 4: Instruction for Milestone Driven Budget

1. Defining project milestones
   a. A milestone is defined by a task or set of tasks or experiments that yield a specific outcome (i.e. generation of a specific dataset or receiving IRB approval for a protocol) related to the specific aims of the research plan.
   b. Applicants must propose one or more milestones for each Specific Aim.
   c. Milestones are associated with a specific schedule and budget.
      - As such the more detailed and achievable the milestone or set of milestones is in a specific time interval, the better. The totality of achievements across the milestones should equate to the successful completion to the specific aims of the research plan.

2. Using milestones to oversee research progress
   a. Both NTAP team members and the investigator team will reference the milestones throughout the life of the award to both release the funds owed to the investigator team and to enable changes that may be required as the project proceeds.
      - It is anticipated that certain tasks will be completed at different time periods in the life of the project as laid out in the original milestone schedule for a project. However, NTAP is aware that both milestones and timelines change as new information is gained and will use the investigator defined milestones to adjust the schedule as needed with the guidance of the investigator team.
      - The more clearly stated a milestone and its associated budget is, the more readily the timeline can be revised.
   b. Investigator(s) should have well defined milestones every 6 months of the grant period.

3. Key points for milestones
   a. Should be stated clearly and be related to the specific aims.
   b. Specify the timeline for each milestone.
   c. Realistic to be accomplished within a given milestone interval.
   d. Milestones do not have to be completed for payment to be made, but progress toward milestone completion must be clear and definite.
   e. The total budget can be evenly divided or distributed accordingly for the project milestone(s)
   f. Each Milestone should have the following if the milestones are involved in a quantitative study such as an animal or human sample study:
      - Provide methods, outcomes, data analysis (if the results are quantitatively measured), and deliverables
      - Specify the cell system or species being used for the planned experiment
      - Specify sex, age and number of animals for the planned experiments
      - Specify age, sex, number, ethnicity and race for clinical studies
      - Specify the readout(s) of the planned experiments

g. Quantitative criteria should be robust and consistent with the state-of-the-art in the field. Most of the time, the quantitative criteria for success in the milestones will also be used to make go/no-go decisions, which should be specified.
h. For animal or human sample study, please consider an institutional approval time
i. Include collaborator(s) information for each milestone if the study will be performed at subaward site or collaborator(s) laboratory.
j. Different specific aims can be performed during the same Milestone period
k. When particularly critical milestones are missed and/or the work will not be completed as originally proposed, payment is adjusted accordingly until the milestone is met.

Appendix 5: Example of Milestone/Deliverable Schedule relative to Timeline and Budget.

Please note, all of the text and estimated budget amounts in this example are imagined and designed to give a sense of structure and level of detail desired in the milestone/deliverable schedule. Investigators are asked to create milestone/deliverable schedules, timelines and budget amounts specific to their project.

Project period: 7/1/2026 – 6/30/2028

Specific aims

Specific aim 1: Perform a screening assay of 200 compounds (selected and provided by institution X) against cNF cells in a 96-well format.
Specific aim 2: Validate the top-performing compounds in *in vivo* models of cNF.
Specific aim 3: Investigate the mechanism of action of the top-performing compound *in vitro* cNF models to determine the optimal timing of dosing.

Milestones/Deliverables

Milestone 0 (0 months, July 1, 2026, $72,000 inclusive of indirect costs)

1) Sign final contract
2) Register with Synapse and complete an orientation meeting with SAGE Bionetworks
3) Define key data elements and their associated annotations for data upload to Synapse

Milestone 1 (6 months, July 1 - December 31, 2026, $72,000 inclusive of indirect costs)

This milestone is about Specific aim 1:

1) Establish a 2D cNF cell culture model system for drug screening (Aim 1)
    - We will use four pairs of established cNF and immortalized cNF cells which are derived from human (two female, two male) cNF patients with NF1-/-
    - The cell proliferation will be assessed using MTS assay
    - The cell imaging will be molecular probes' Live/Dead assay
2) Identify effective compounds (i.e. cytotoxic to cancer cells but less toxic to normal cells) for cNF cell model and other cells such as Schwann cells, endothelial cells, fibroblasts. All these cells are derived from human cNF patients (female, male) with NF1-/- (Aim 1)
3) Submit and obtain approval IACUC for the proposed animal study
4) Create annotation language and submission of generated data to Synapse
    - Key raw data: cell proliferation assay, Live/Dead imaging
    - Key protocol of the experiment

Milestone 2 (12 months, January 1- June 30, 2027, $72,000 inclusive of indirect costs)

This Milestone is about Specific aim 1 & aim 2:

1) Validate the identified compounds on the 3D cNF cell culture models (Aim 1)
    - We will use two pairs of established cNF and immortalized cNF cells which are derived from human (female, male) cNF patients with NF1-/-
    - We will use two human cNF derived induced pluripotent stem cells (iPSCs) which are derived from human (female, male) cNF patients with NF1-/-.
    - Establish an optimized 3D model using at least three different coating substances
    - Cell viability assay will be by CellTiter-Glo 3D Cell Viability Assay
    - Image data analysis using image analysis software (Aim 1)
    - Select the most promising compound(s) based on therapeutic effect on cNF cells and normal cells for *in vivo* study
2) Receive XXX cNF mice from a collaborator and establish colony at XXX. (Aim 2)
3) identify the maximal beneficial dose (and minimal effective dose of selected compounds *in vivo* (Aim 2)
    - We will use 12-month-old male and female XXX cNF mice (n=8-10 per group)
    - There are four groups (vehicle treatment, three different doses of compound)
    - We will measure the volume of tumors using an imaging device (IVIS, ultrasound, caliper) as the outcome of the study
4) Submission of generated data to Synapse
    - Key raw data: Cell viability assay, tolerability and toxicity in xxx cNF mice, maximal beneficial dose and minimal effective dose across the cohort and by sex
    - Key protocol of the experiment

Milestone 3 (18 months, July 1 - December 31, 2027, $72,000 inclusive of indirect costs)

This Milestone is about Specific aim 3:

1) Gene expression analysis of top compound *in vitro* cell culture (Aim 3)
    - We will use two pairs of established cNF and immortalized cNF cells which are derived from human (female, male) cNF patients with NF1-/-. The gene expression will be compared between compound treated cells and vehicle control treated cells. For comparison, we will use Schwann cells derived from NF1-/- as well.
    - The dose and duration of the top compound treatment will be based on the result of Aim 1 study
    - We will perform RNAseq and single-cell RNAseq
2) Analysis of the gene expression (Aim 3)
3) Validate several gene expressions altered by compound treatment in the established cNF and immortalized cNF cells which are derived from human (female, male) cNF patients with NF1-/- (Aim 3)
    - Quantification of pMEK and MEK expression in cNF and immortalized cNF cells with or without compound treated cells using pMEK antibody
4) Submission of generated data to Synapse

- Key raw data: RNAseq, single RNAseq, qPCR
- Key protocol of the experiment

Milestone 4 (24 months, January 1- June 30, 2028, $72,000 inclusive of indirect costs)

This Milestone is about Specific aim 3:

1) Gene expression analysis of top compound *in vitro* cell culture (Aim 3)
    - We will use two human cNF derived iPSCs which are derived from human (female, male) cNF patients with NF1-/-. The gene expression will be compared between compound treated cells and vehicle control treated cells.
    - The dose and duration of the top compound treatment will be based on the result of Aim 1 study
    - We will perform RNAseq and single-cell RNAseq
2) Analysis of the gene expression (Aim 3)
3) Validate several gene expressions altered by compound treatment in two human cNF derived iPSCs which are derived from human (female, male) cNF patients with NF1-/- (Aim 3)
    - Quantification of pMEK and MEK expression in cNF cells with or without compound treated cells using pMEK antibody
4) Submission of generated data to Synapse
    - Key raw data: RNAseq, single RNAseq, qPCR
    - Key protocol of the experiment
5) Submission of Close-out documents (Final Scientific Summary, Final Financial Report) to NTAP

Appendix 6: Example of Budget and Budget Justification

I. Budget

	(Year 1)
Personnel	
Richard Roe (Technician)(40% effort)	$15,892
Supplies	
Cell Culture Supplies	$7,350
96-well Dark-n-Glo assay Supplies	$9,390
Equipment	
Eppendorf 5430R (centrifuge w/ buckets)	$3,878
Publication Costs	
Standard fees, applicable	$4,000
Travel Costs	
Attend scientific meetings	$5,000
Mentor Stipend	
Mentor stipend	$10,000
TOTAL due (Direct Costs):	**$55,510**
TOTAL due (10% maximum indirects):	**$5,551**
GRAND TOTAL:	**$61,061**

II. Budget Justification

Personnel ($15,892)

Mr. Richard Roe is an experienced cell culture technician who has become familiar with the culture of the PN cell models, including in 5D. He will commit 40% of his effort to complete the work on this project. Budget request: $12,553 salary; $3,339 fringe benefits

Supply Costs ($16,740)

Cell culture supplies: (Note: Cell culture supply costs have been extrapolated from those incurred so far on this project) media, serum, tissue culture plastic, reconstituted basement membrane, medical gases; sub-total= $7,350

96-well Dark-n-Glo assay supplies: (Note: costs in 96-well format estimated from scaling the A MYSTERY INSTITUTION standard protocols), Greiner Bio-One 96-well assay plates, Dark-n-Glo reagent, 2 multi-channel pipettors and racked repeater tips; sub-total=$9,390

Equipment Costs ($3,878)

We will need a refrigerated centrifuge that can accommodate 96-well microplates to generate even coating of reconstituted basement membrane for transition to 5D cultures. The State University Office of Vice-President for Research has committed more than half ($4,290) toward the cost of this necessary equipment to support our efforts and to reflect that we expect the equipment to be useful beyond the term of the supplementary project.

Eppendorf model 5430R: refrigerated centrifuge with conventional rotor and swinging bucket rotor for 96-well microplates, quote price $8,168 less institutional commitment of $4,290.

Publication Costs ($4,000)

We expect to publish the results of this project and request funds to partially offset the costs associated with doing that.

Travel & Program Building Costs ($5,000)

Travel costs is requested to offset the cost for PI or team members to present findings at NF conference.

Mentor Stipend ($10,000)

This cost is the lead mentor’s stipend.

Appendix 7: Instruction for Other Support of lead investigator and key personnel

Provide active support for all key personnel (PI(s), Co-Investigator(s)). Other Support includes all financial resources, whether Federal, non-Federal, commercial or institutional, available in direct support of an individual's research endeavors, including but not limited to research grants, cooperative agreements, contracts, and/or institutional awards. Training awards, prizes, or gifts do not need to be included. Please specify any existing or pending support that has any scientific or budgetary overlap with the NTAP proposal responsive to this RFA. Please specify the plan to address any potential areas of overlap identified.

There is no "form page" for other support. Information on additional support should be provided in the *format* shown below, using continuation pages as necessary. Include the principal investigator's name at the top and number consecutively with the rest of the application. The sample below is intended to provide guidance regarding the type and extent of information requested.

Samples

DOE, JANE

ACTIVE

2 R01 NC 00000-13 (Doe) 03/01/2010 – 02/28/2025 3.60 calendar
NIH/NCI $186,529
New therapy development for cutaneous neurofibromas
The major goals of this project are to define the effect of Selumetinib on peripheral nerve tumors in children with NF1

PENDING

CTF 950000 (Anderson) 07/01/2022 – 11/30/2023 2.40 calendar
Children's Tumor Foundation $82,163
Drug screening of plexiform neurofibroma models in 96-well format
The major goals of this project are to identify FDA approved drugs on plexiform neurofibromas *in vitro* cell culture models
Role: Co-Investigator

OVERLAP

There is scientific overlap between aim 2 of NIH/NCI and aim 1 of the application under consideration. If both are funded, the budgets will be adjusted appropriately in conjunction with agency staff.