DRUG DISCOVERY INITIATIVE (DDI)
Application Guidelines

The Children’s Tumor Foundation, founded in 1978 as the National Neurofibromatosis Foundation, is a non-profit organization committed to identifying effective drug therapies for neurofibromatosis (NF), which includes NF1, NF2, and schwannomatosis, and to improving the lives of those living with these disorders. NF is one of the most common rare diseases, affecting 1:3,000 individuals (around 100,000 persons in the US and over 2 million worldwide). Since its inception, CTF has committed over $42 million to research grants and initiatives, supporting scientists around the world to conduct groundbreaking NF research.

NF causes a range of central and peripheral nervous system tumors (benign and malignant), bone abnormalities, learning disabilities, pain, vascular complications, and other manifestations. The progress of NF is unpredictable and often presents a chronic lifelong burden to the affected person. There is a need for drug management but, other than Koselugo (selumetinib) for pediatric NF1 plexiform neurofibromas, there are no effective therapies for the diverse manifestations of NF. The signaling pathways affected in NF are common to many other tumor disorders and many existing drugs developed for these disorders could be repurposed for NF.

PROGRAM FOCUS
The goal of the Drug Discovery Initiative (DDI) program is to stimulate NF drug discovery by funding researchers proposing to investigate novel or repurposing therapies for NF or to develop tools to support such research. Proposals are expected to be short and concentrated on obtaining key preliminary data needed to quickly advance to the next step of drug discovery.

Specifically, the aims of the DDI program are to -

1. support early stage testing of therapeutic compounds for the treatment of NF
2. support generation of new in vitro or in vivo model systems for NF

COMMITMENT TO OPEN SCIENCE AND DATA SHARING
The Children’s Tumor Foundation values the open sharing of research outputs and in 2018 has funded the NF Data Portal, a public data repository that stores and shares data generated by multiple collaborative research programs focused on neurofibromatosis (NF) diseases (neurofibromatosis type 1, type 2, and schwannomatosis).
By applying to any CTF grant, applicants agree to the principles of the NF Open Science Initiative (NF-OSI), an open effort focusing on finding NF treatments by sharing data and analysis results with the broader community.

Please read more about our commitment to open science and data sharing here.

APPLICANT ELIGIBILITY

- Applicants should have an MD or PhD or an equivalent degree from a recognized US or non-US institution.
- As the DDI program offers only seed funding, applicants are expected to have already established in their laboratory, or have identified collaborators with, all required resources including in vivo and in vitro models.
- There is no citizenship requirement. Applications are welcome from all qualified individuals worldwide.
- Applications are welcome from both academic and private sectors.
- CTF requires all applicants to acquire a personal ORCID ID (https://orcid.org/) and to elect CTF as a trusted partner on ORCID. Once an applicant has granted permission, CTF as the trusted organization will be able to see information that they have set as visible to trusted parties in addition to the information set as visible to everyone. Please visit this ORCID page to learn more about visibility settings and trusted organizations. Since ProposalCentral has developed an extended integration with ORCID to allow seamless data transfer, applicants are strongly encouraged to keep their ORCID ID record up to date especially in the Education, Funding and Works (publications) sections.
- Recipients of past or current DDI/DDIRR grants can plan to submit a new proposal or an extension of their current study for a maximum of 2 consecutive cycles (in case of extensions).
- New submissions from current or past grantees are welcome at every DDI cycle. Current grantees can request a maximum 1 year extension of their grant following the same guidelines. Existing grants timelines cannot overlap with new grant request timelines. Grant extensions submissions will be reviewed, scored, and recommended for funding together with all the other submissions for that cycle.

AWARD DURATION AND FUNDING
The DDI program provides funding for ONE YEAR as follows:

- Up to $40,000: to fund cell-based preclinical drug testing studies
• Up to $85,000: to fund animal-based preclinical drug testing studies

Please note that funding amounts are **INCLUSIVE of up to 10% indirect costs.**

**APPLICATION PROCESS**
The DDI application is a one-stage process wherein applicants submit their full research proposal through ProposalCentral ([https://proposalcentral.com/](https://proposalcentral.com/)). A Letter of Intent is not required.

Applicants will be asked to provide -

1. **Lay Abstract** - *Entered directly in the application form on ProposalCentral.*
   Maximum of 2000 characters.

2. **Scientific Abstract** - *Entered directly in the application form on ProposalCentral.*
   Maximum of 2000 characters.

3. **Cover Letter** - *To upload on ProposalCentral.*
   The cover letter (1-2 pages, single line spacing, Calibri size 11 font) must include -
   a. summary of the proposed work, its correlation to previous work, and anticipated timelines
   b. statement confirming that all necessary support and approvals are in place or will be obtained
   c. statement about potential conflicts of interest

   The Research Proposal (up to FIVE pages excluding citations, single line spacing, Calibri size 11 font) must include -
   a. introduction and aim(s) of proposed research
   b. description of proposed experiments with rationale, preliminary data, and sample characteristics and statistical analyses where necessary.

   **NOTE:** For studies involving statistical analyses, please provide justification for the method used along with all relevant details. For Neyman-Pearson inference please include a statistical power analysis and estimated effect size. For Bayesian hypothesis testing, please include predictions and corresponding Bayes factor, along with distributions and parameters to be
used (if resources are limited, please specify the maximum feasible sample size at which data collection would have to cease).

c. significance of proposed research, milestones and timelines of research plan, and summary of all resources available.

5. **Citations** - To upload on ProposalCentral
   Must include references to studies from databases such as PubChem and NF Data Portal where available. We will preferably consider studies that cite and build from existing data.

6. **Open Access Research Output** - Entered directly in the application form.
   CTF values the open sharing of research outputs such as open access articles, open access books, book chapters, and/or monographs, copies of your papers, chapters, monographs, or other published materials in institutional or disciplinary repositories, preprints, datasets, software/code, materials/reagents, preregistration plans, public disclosure of negative results, and any other outputs, and encourages all its awardees to make research outputs publicly available, usually within one year of project completion, on open platforms.

   To evaluate an applicant’s willingness to openly share research outputs, we ask applicants to provide representative examples demonstrating how they have made outputs from other projects openly accessible. Please also provide, where possible, the DOI and license terms that facilitate access and reuse of these materials. Please know that not having prior open access research outputs does not exclude your application from receiving a fair review.

7. **Biographical Sketch** - A NIH biosketch template will be provided in the application form. Applicants can also upload a biosketch generated through SciENcv.

8. **Budget Justification** - Budget template will be available in the application form.

9. **Commitment to submit a Data Sharing Plan** - CTF template will be available in the application form
   At the proposal stage, applicants are not required to submit the full Data sharing plan (DSP), however in order to activate the award, applicants are required to submit the Data sharing plan. Applicants are strongly recommended to submit the complete DSP at the time of application submission in order to speed up the process of award activation. Please see the Award Activation section below for more information.

10. **Patent Policy** - CTF template will be available in the application form
Applicant institutions are strongly recommended to sign the CTF Patent Policy at the time of application submission in order to speed up the process of award activation. Please see the Award Activation section below for more information.

REVIEW PROCESS
All applications will be reviewed by the CTF DDI Program Committee, a panel of external reviewers, and patient reviewers where necessary. A statistical review of the experimental protocol will be included for all applications. Reviewers will consider, in order of importance:

1. Impact of proposed research
2. Feasibility of proposed research
3. Transparency/soundness of experimental protocol
4. Alignment of budget
5. Applicant qualifications
6. Open science/data sharing readiness

NOTE:
1. Patient reviewers will review and score only specific sections (lay abstract, impact of research on NF patients) of the application. Patient’s score and statistical review score will be integrated into the final application score.
2. Based on reviewer feedback, CTF may request the applicant to revise the application and resubmit for review.
3. Open science/data sharing readiness is considered a plus. Lack of evidence will not be considered as a critical factor for rejecting an application.

The DDI Program Committee will select and recommend applications for funding at the end of the review process. These recommendations will then be evaluated by CTF’s Board of Directors (BOD), which will make the final decision on applications to be funded. No funding decision will be final until approved by the BOD.

TERMS OF AWARD

I. Applicant Notification
Applicants will be notified about the decision on their application within 6-8 weeks after application submission. All applicants, both funded and not funded, will be provided with a summary of the feedback from the review of their application.

II. Award Activation
Applicants whose proposals get selected for funding will be requested to complete and return the following documentation to CTF before their DDI award can be activated—
● **Acceptance of Award** – An award acceptance letter will be emailed requesting information on Awardee, Institution, contact officials, and bank information for electronic transfer of payments.

● **Data Sharing** – Awardees will be required to complete a Data Sharing Plan and register their project as a new study on the NF Data Portal. CTF believes in making data from all its funded projects freely accessible irrespective of whether the findings were positive or negative. Normally CTF allows for a 12-month embargo on the data from the end of the award after which the data will be opened to the community. For more information about the data sharing process, please visit the Help page on the NF Data Portal and the proposed standards for data sharing specifications doc.

● **Patent Policy*** – Awardee institutions will be required to sign CTF’s Patent Policy before the award can be fully activated. We strongly recommend signing the Patent Policy at the time of application submission in order to speed up the process of award activation. If your institution is not able to agree to the terms of the Patent Policy as they stand, please contact us as soon as possible at grants@ctf.org. The Patent Policy is intended to ensure that any inventions or patented technologies arising from CTF-supported research are commercialized where possible. CTF anticipates recouping some revenues arising from commercialized technologies it supported, in proportion to the contribution made by CTF’s initial funding. Such funds will be used to support further initiatives at CTF.

*Special Note to Federal Employees (e.g. NIH intramural researchers)

Since the National Institutes of Health are prohibited by congressionally enacted federal law from accepting the terms of CTF’s Patent Policy, the policy may be waived for federal employees, such as NIH intramural researchers, depending on the project being funded. Federal employees wishing to apply for a grant are, therefore, invited to discuss their project with CTF prior to submitting their grant proposal. Any information shared with CTF will be treated confidentially.

**III. Status of Awardee**

The Awardee will be considered an employee of the awardee’s institution and not of CTF.

**IV. Extended Leave of Absence**

Should the Awardee need to take a leave of absence for more than a month for reasons such as maternity/paternity or illness, CTF must be informed of the date of departure and expected date of return.
V. Award Purpose Change or Transfer
Any fundamental change in the purpose for which the DDI was originally made must have prior written consent of CTF. A DDI may not be transferred from one institution to another without prior written authorization from CTF.

VI. Award Cancellation or Early Termination
CTF reserves the right to cancel or prematurely terminate a DDI if required. In such an event, the award amount will be prorated based on the number of months it was in effect. A final report of expenditures and a refund of any unspent funds must be submitted to CTF within 60 days after cancellation or termination. Failure to provide the final expenditure report by the required date will result in suspension of the award and may impact the applicant's eligibility for future funding opportunities at CTF until all materials are received.

VII. No-Cost Extension
CTF allows Awardees to request a No-Cost Extension (NCE) of the final budget period of their award for up to 1 year beyond its original expiration date. All terms and conditions specified in the original contract will apply during the extension period. Upon notification of approval by the DDI Program Committee, CTF will revise the project end date and provide an acknowledgment to the awardee.

VIII. Other Sources of Support
The Awardee and the sponsoring Institution are responsible for informing CTF of possible conflicts related to duplicate funding of the DDI-funded project. Failure to inform CTF of other sources of support can result in loss of CTF funding and may also impact the applicant's eligibility for future funding opportunities at CTF.

IX. Periodic Reporting
Awardees are required to submit two types of reports periodically through their account on Proposal Central -

- **Progress report**
  - A detailed update on the development of the DDI-funded research must be provided at 6- and 12 months after activation of the award.

- **Expenditure report**
  - An expenditure update vs budget must be provided within 60 days after completion of the award.
  - All expenses must be reported in US dollars only.
  - Expenditure reports must be signed by the institution's financial officer.
○ Any unexpended and uncommitted funds in possession of the awardee at the end of the award period must be returned to CTF within 60 days from the expiration of the award.
○ In addition to the above, interim accounting may be requested by CTF.

X. Public Notification of Awards Funded
Once a DDI is activated, CTF will advertise online and in CTF’s other public documentation the recipients of the DDI together with a lay summary of the proposed research. Please include a photograph of yourself (over 2MB) that we can use in award announcements.

XI. Publicity, Publications, or Exhibits Notification of Awards Funded
The Awardee Institution must notify CTF in advance of any publications, presentations, or announcements pertaining to work done under the Award or Follow-Up Work, whether these are to professional audiences or the public media. For professional publications and presentations, once these have been accepted, Awardee Institution must submit an electronic copy of the paper, abstract, slide presentation or poster to grants@ctf.org with details of publication release or presentation (journal, meeting, time, location). CTF strongly encourages posting of early manuscripts on preprint servers for fast acting dissemination of results. All information shall be held as confidential by CTF until time of public presentation or publication. The support of CTF must be duly recognized everywhere, and must include the CTF grant number and Digital Object Identifier (DOI).

For announcements to the public, the public media and/or the press, including a posting to the Internet, pertaining to this Award or any Follow-Up Work (collectively, a “Release”), Awardee Institution agrees to provide a draft of such Release to CTF at media@ctf.org at least one week before such publication of such Release so as to provide CTF the opportunity to suggest edits to the language of the Release, particularly as to CTF’s role in the Award, any Follow-Up Work, and neurofibromatosis research. Awardee Institution agrees to consider all such suggestions and include them in the Release if they are accurate. Awardee Institution shall not unreasonably decline to include any edits in a Release.

For the purposes of this Award, the term, “Follow-Up Work” shall mean any research predicated upon or directly related to the research funded by this Award.

XII. Open Access Fee Reimbursement Policy
CTF encourages and enables its awardees to publish in open access journals, which facilitates more rapid dissemination and broad use of their publications. To do so, we have established an annual fund of $15,000 that is available on a first-come, first-served basis to current awardees to pay the fees incurred for publishing in open access journals.

● The publication must be based on CTF-funded research.
● Requests must be submitted during the award period, or within 18 months of the award end date.
● Awardees should submit a written request to grants@ctf.org with 1) a copy of the invoice or receipt for publication fees from the journal, 2) PDF copy of the accepted publication, and 3) active URL link to the publication.

All requests will be reviewed, and if approved and if there are funds remaining, the publication fees will be duly reimbursed. If not available, authors are encouraged to explore “green open access” as a repository-based open access option within their institution.

XIII. Follow-On Funding
Awardees are required to keep CTF informed about any follow-on funding, collaborations, and publications (posters, papers) generated from the research funded by the DDI. Such continuing communications will allow CTF to measure the impact of its research funding more easily.

Please email grants@ctf.org if you have any questions. We wish you the very best and look forward to receiving your application!