Walter+ Eliza Hall Institute of Medical Research
DISCOVERIES FOR HUMANITY

National Drug Discovery Centre

Application guidance document

Background

The National Drug Discovery Centre (NDDC) is an initiative of The Walter & Eliza Hall Institute of Medical Research (WEHI) to translate and advance scientific discoveries through the development of new medicines to treat disease. The NDDC offers Australian medical researchers access to a fully staffed facility with drug screening expertise and the latest in advanced robotic ultra-high throughput screening.

The NDDC offers a fixed number of subsidised screens to the Australian medical research community at a 90% discount to the actual costs. As an indicative guide, the full cost to perform a 300,000-compound screen is typically in the range of $1.00 to $1.50 per compound, depending on specific parameters. Accordingly, the subsidised pricing for a successful applicant would typically be in the range of $30,000 to $45,000. Applicants warrant that they have the capacity to pay this fee. Under the standard Terms of Service offered by WEHI, applicants will own any intellectual property rights subsisting in the compounds identified as hits by the screening campaign.

Researchers who belong to approved Australian research institutions such as public universities, hospitals, and medical research institutes are eligible to apply for a subsidised screening campaign.

Successful applications will be selected by a review panel consisting of experts in biological sciences, translational biology and in drug discovery, assembled from Australian and international research organisations.

Before submitting an application, applicants are advised to ensure they have a confidential disclosure agreement in place. Non-WEHI applicants should download and complete the Mutual Confidentiality Agreement form available from the NDDC website.

Purpose of this document

This document is intended to help by outlining the NDDC application process and describing the information that you will need to provide when you lodge an application *via* the online portal.

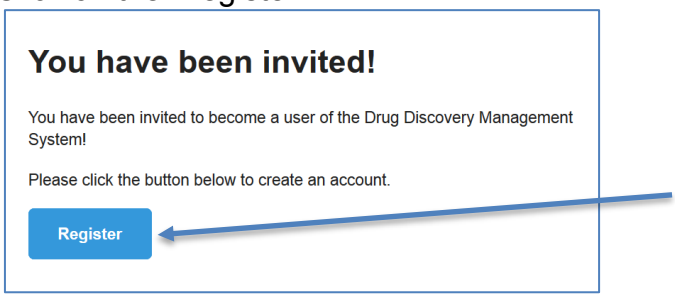
How to apply

Researchers who wish to apply for a subsidised screen through the NDDC should follow these steps:

1. Contact us at nddc@wehi.edu.au to request a login.

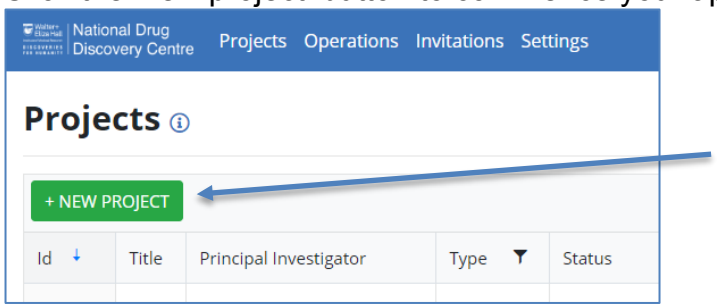
2. Wait up to one business day to receive an email response from us, inviting you to become a user of the online applications portal.

3. Click on the ‘Register’ link.



4. Provide your personal details to register as a user of the online applications portal.

5. Click the ‘new project’ button to commence your application.



Once you are registered, the portal may be accessed at nddc-app.wehi.edu.au using your email address and the password that you chose when you entered your registration details.

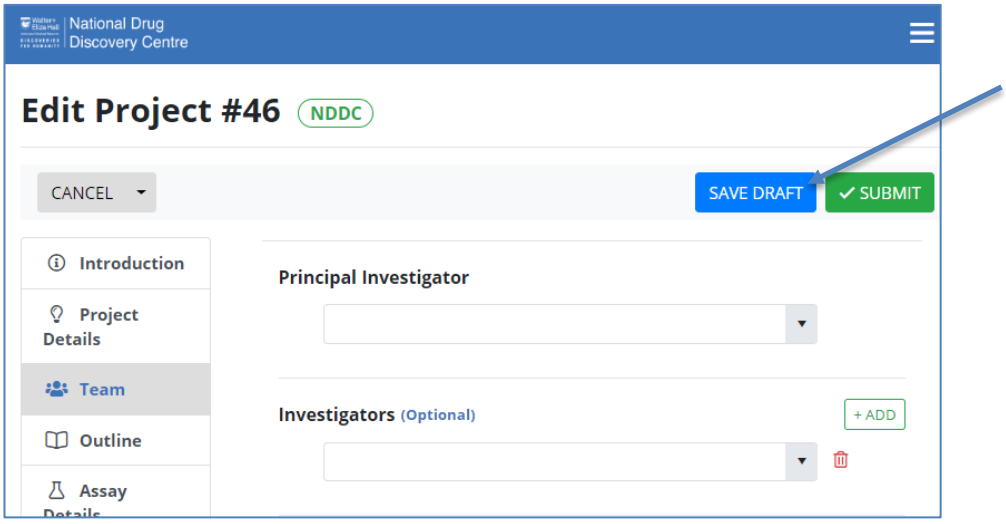
Confidentiality

Please do not enter any confidential information into the form until you have a confidential disclosure agreement in place. Non-WEHI applicants should download and complete the Mutual Confidentiality Agreement form available from the NDDC website.

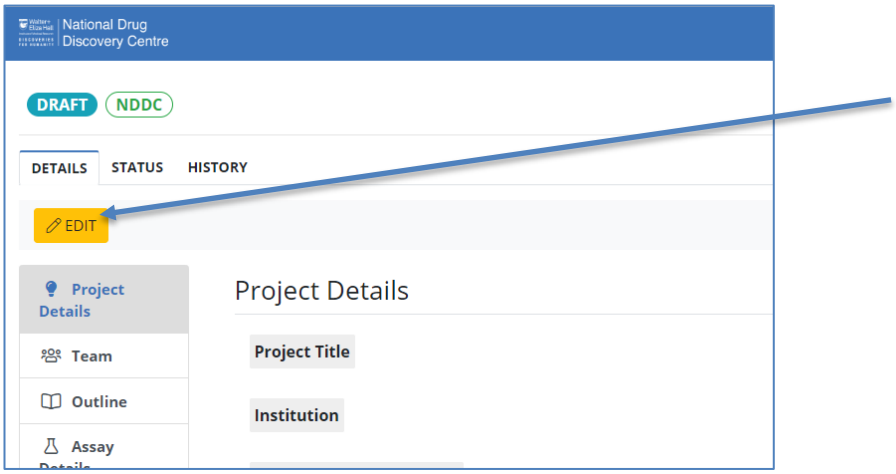
Using the applications portal

Once you are registered, the portal may be accessed at nddc-app.wehi.edu.au using your email address and the password that you chose when you entered your registration details.

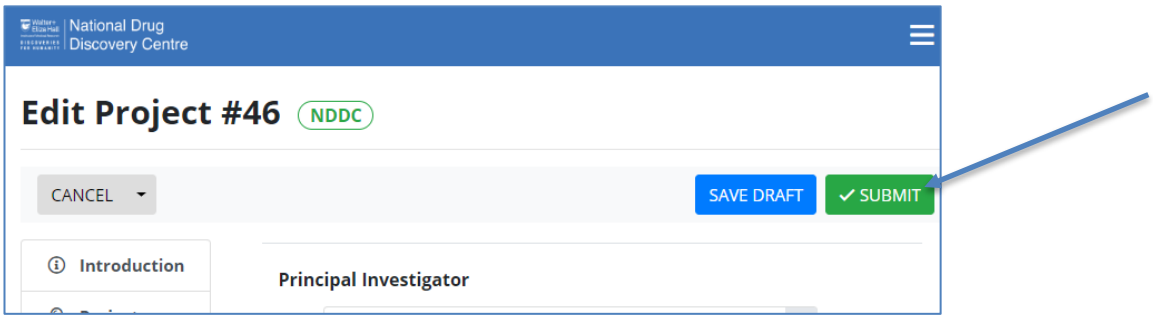
At any time, you may save your progress by clicking the ‘save draft’ button (see below).



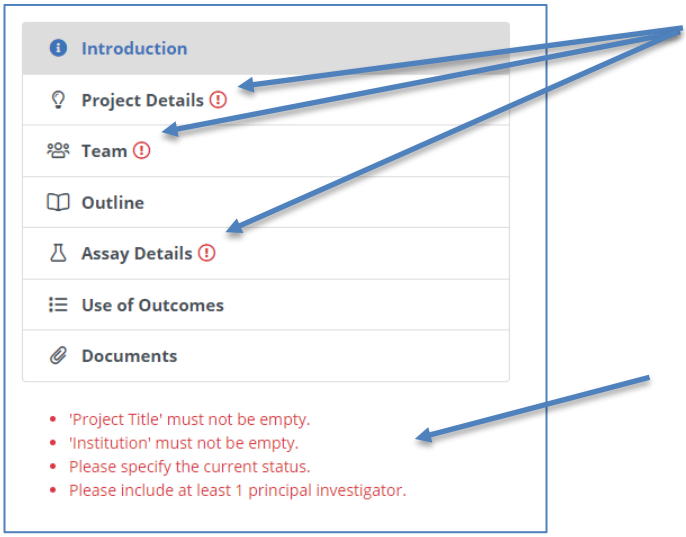
If you wish to resume editing a previous draft, you will need to select the project and then click the ‘edit’ button.



When you have completed the form, click the ‘submit’ button.



If you failed to complete a compulsory field, warning flags and messages will appear to assist you. You will not be able to submit your application until these fields are completed on the form.



If you encounter difficulties using the portal, please contact us at nddc@wehi.edu.au.

Details required on the application form

In the online application form, you will find the sections discussed below.

PROJECT TITLE:

Provide a title for your project.

Please ensure that your title does not reveal any confidential information. Your title may be used for statistical or publicity purposes or to fulfil Government reporting requirements. Do not disclose any confidential information in this summary.

INSTITUTION, COLLABORATING INSTITUTION:

Enter the name of your institution and (if applicable) the institutions of your collaborators.

PRINCIPAL INVESTIGATOR, INVESTIGATORS, ADMINISTRATORS:

If you are applying on your own behalf, select your name as the principal investigator.

This section allows you to invite co-investigators or administrative assistants to register for the online portal and edit or read your application.

TEAM OVERVIEW:

List the key people involved in this project, outlining their positions & credentials (up to 400 words).

For each of the key personnel, include name, role & institution. Provide evidence of your ability in this field of research, including any previous joint collaborations if applicable.

NON-CONFIDENTIAL LAY SUMMARY:

Provide a brief, non-confidential description of your project (up to 100 words).

This information will be used to determine the suitability of review panel members to assess your application and may also be used for statistical or publicity purposes or to fulfil Government reporting requirements. Do not disclose any confidential information in this summary.

SYNOPSIS:

Summarise the key points of your application as a dot-point list (up to 250 words).

PROJECT BACKGROUND:

Provide the scientific background and explain the rationale for this work (up to 500 words).

Where appropriate, include the disease context, clinical need, function and relevance of the target, evidence for target validation, site of target expression, and site of intended drug action. Note any scientific challenges, including anticipated target-related side effects.

VALIDITY OF APPROACH:

Provide evidence to support the validity & feasibility of your chosen target or approach (up to 500 words).

Information in this section may address answers to the following questions, where relevant:

What understanding is there of the relationship between genotype and phenotype? Is there human genetic data to validate the target? Is a protein structure available and, if so, does it indicate the presence of a pocket that can be targeted by a small molecule? Are there any existing small molecules with proven activity for this target? Has a related protein already been drugged? What is required to achieve selectivity?

INNOVATION:

Discuss the level of novelty of your target or approach (up to 500 words).

Describe the current standard of treatment for the proposed indication and note whether there are any marketed drugs or clinical candidates. Does this proposal constitute a novel mechanism or a novel target to treat the indication? State whether your proposed approach is dependent on new information that has been generated by you.

GENERAL DESCRIPTION OF SCREENING ASSAY:

Describe your primary screening assay (up to 400 words).

Identify the assay type and readout. Specify the origin of this assay (*e.g. developed in own lab / co-developed / published protocol, etc.*) and indicate whether any reference compounds or controls are available. Indicate what compound library you propose to use (*e.g. a boutique library, a standard diversity collection or a specified alternative*). Describe only one assay.

DETAILED SCREENING ASSAY PROTOCOL:

Provide the stepwise protocol of your screening assay (up to one A4 page, including figures; this may be provided as a separate attachment).

To be eligible for consideration, applicants must have hands-on experience with, and be able to demonstrate, a working assay that is transferrable to the WEHI NDDC labs. Provide a complete detailed protocol of your assay. Indicate the source of required reagents & components, noting for each one whether it will be provided by you (*e.g.* recombinant protein, stable cell line) or purchased (provide vendor catalogue IDs). Indicate the current status of the assay in your own lab (*e.g. validated in 96-well format*).

ASSAY READINESS CRITERIA:

Complete the table, noting whether your assay complies with the requirements.
This table is provided in the 'NDDC screening assay requirements' document, available separately from the NDDC website. To be eligible for NDDC subsidised screening, your screening assay must meet minimum requirements as indicated. If your assay currently approaches but does not fully meet these requirements, please specify what additional work is needed to reach the required standard.

AVAILABILITY OF MATERIALS:

Indicate availability and lead times for necessary reagents and materials.

Include information regarding sourcing of key assay components (*e.g. antibodies, protein batches, primary cells, etc.*). Also note here any third-party limitations of which you are aware, including any aspects of this application that are not owned or controlled by you but are necessary for carrying out the screening program as proposed.

COMPOUND INTERFERENCE ASSAY

Provide details of a counter-screen assay to identify compounds that interfere with the primary screen (up to 300 words or attach a protocol as a separate document).
This assay must be suitable for high-throughput format at the NDDC facility and will be used to test for unspecific interactions (*e.g. using a blank cell line*). Include information regarding sourcing of any key assay components not mentioned elsewhere (*e.g. antibodies, protein batches, primary cells, etc.*).

FURTHER DEVELOPMENT PLAN:

Summarise your proposed screening cascade and medicinal chemistry plan after the screening campaign is complete (up to 300 words).
If the screening campaign is successful in identifying a list of hit compounds, describe how you will filter this list. Suggest potential orthogonal assays to confirm hits (*e.g. using an alternative readout*). If your primary screen is a phenotypic assay, also outline your strategy for target identification. Indicate what expertise you or your organisation has in drug discovery or whether you intend to collaborate with another organisation to develop the hit compounds.

SUPPORTING INFORMATION FOR SCREENING ASSAY:

In support of your screening assay, please attach the following:

- A presentation-file summary including graphs of key assay development experiments performed to date
- Raw data of whole-plate experiments and reference compound testing (preferably in Microsoft Excel format)
- Evidence of optimised assay conditions, for example:
    - Assay components concentration optimisation
    - Buffer optimisation
    - Incubation time optimisation
    - Order of reagent addition