Call for Proposals – Driver Projects for the PRECISE-SG100K Dataset

Release Date: 21 November 2023

INTRODUCTION

Phase 2 of the National Precision Medicine (NPM) programme is progressing well and the PRECISE-SG100K Dataset is developing well. To date, >80,000 participants have been recruited and whole genome sequencing for >46,000 have been completed. PRECISE-SG100K is on track to make the first data freeze comprising data for 50,000 participants available to the Singapore public research community in Q2 2024. The second data freeze of all 100,000 participants is likely to be available in Q2 2025.

In anticipation of the first data freeze, we are inviting researchers in Singapore to submit proposals for **DRIVER PROJECTS** that make use of these unique data to advance scientific knowledge and clinical translation.

Approved driver projects will get priority access to the de-identified clinical, phenotypic, and genomic data of the 100,000 participants in the SG100K study. They will also get support from PRECISE-SG100K Scientific Committee (refer below for details of members) and Data Science Team as well as opportunities to collaborate with pharmaceutical companies who are partnering the NPM programme.

BRIEF DESCRIPTION OF DATASET

PRECISE-SG100K Dataset includes:

1. Research Phenotype Data: Questionnaire responses, physical measurement, biochemical laboratory assays, and imaging collected from SG100K participants.
2. Genome Data: Shotgun Whole Genomic Sequencing (WGS) derived genomic sequences and variant catalogue of SG100K participants.
3. Clinical Data collected by public healthcare providers and maintained by the Ministry of Health, Singapore.

All data will be pseudonymised. This means that conventional personal identifiers such as date of birth, NRIC, and residential address are removed. The data and/or human biospecimens thus cannot be easily attributed to a specific individual.

GUIDING PRINCIPLES FOR PROPOSAL

Scope for Proposals

1. The primary focus should be analysis of the PRECISE-SG100K Dataset.
2. Data use must fall within Institutional Review Board / data access permissions.
3. Research objectives should be focused, ambitious yet achievable.
4. Proposals that seek to generate bulk analysis of the data (e.g. GWAS across a large number of traits) without clear scientific focus are unlikely to be supported.
5. Proposals should aim to deliver at least 1 major scientific publication within 2 years.
6. Where submitted proposals overlap, the PRECISE-SG100K Scientific Committee may encourage the researchers to converge them into a single proposal.

Project Team

We expect proposals to show collaboration and partnering across Singapore public institutions. Towards this, the project team should include:

1. Lead Principal Investigator (Lead-PI) – a senior researcher who takes overall responsibility for ensuring the research is completed as described in the proposal.
2. Co-Lead Principal Investigators (Co-Lead PIs) – senior researchers who will help lead the research described. Maximum two Co-Lead PIs.
3. Co-Investigators (Co-Is) – other researchers involved in completion of the research.

One researcher will generally be limited to being Lead-PI for no more than 1 proposal. In addition, Lead-PIs are required to hold a primary appointment in a local publicly funded institution throughout the duration of the project.

Industry Involvement

PRECISE anticipates working closely with industry to pursue collaborative research that advances precision medicine insights. To this end, there is currently an active process towards creating a consortium with multiple international pharmaceutical partners. This leads to two key considerations:

1. Project Proposals that include an industry partner will require specific review and approval by PRECISE and the PRECISE-SG100K Scientific Committee, to ensure that the proposed industry involvement does not conflict with ongoing industry engagement activities.
2. The pharmaceutical partners brought into a collaboration by PRECISE may seek to pursue similar works to that described in the proposals. PRECISE will aim to link up these similar research strands, so that Singapore public researchers and PREICSE pharmaceutical partners can work together where it adds value. If this happens, it might lead to additional support available for the selected proposals.

Publication Policy

Publications arising from the proposals should include an author list that adopts the following principles:

1. Project team should lead the author list. We highly encourage the following practices:
    a. "Junior colleagues at the front, Seniors at the back"
    b. Use authorship generously to share success equitably
2. The authorship list should also include collaborators and members who have helped to create and guide development of the PRECISE-SG100K scientific resource. This includes:
    a. PRECISE Management Team (Up to 3 members)
    b. PRECISE-SG100K Scientific Committee (2 members)
    c. PRECISE-SG100K Data Science Team (2 researchers)
    d. PRECISE-SG100K Cohorts
        i. Up to 2 for Singapore Epidemiology of Eye Diseases (SEED) Study
        ii. Up to 2 for SingHEART Study
        iii. Up to 3 for Health for Life in Singapore (HELIOS) Study, and
        iv. Up to 3 for Multi-Ethnic Cohort (MEC) Study
3. PRECISE-SG100K Banner: A banner authorship MUST be used to capture other PRECISE-SG100K researchers not included in the primary author list.

4. Acknowledgements: The manuscript MUST include an approved PRECISE-SG100K acknowledgements text. Please check with PRECISE Programme Managers, Dr Ryan Luo (ryan.luo@precise.cris.sg) and Dr Kriti Sethi (kriti.sethi@precise.cris.sg) for the approved text.
5. All manuscripts MUST be shared with and approved by the PRECISE-SG100K Scientific Committee prior to journal submission to ensure that they respect these principles.

FLAGSHIP PROJECTS

A number of Driver Projects will be invited to work more closely with the PRECISE-SG100K team. These **Flagship Projects** will be selected based on their alignment to the research strategy for the NPM programme and their potential to generate insightful and impactful observations. Flagship projects will receive additional support from PRECISE-SG100K team, which may include support for computing costs and/or data analysts FTEs.

Flagship Projects will be show-cased as key research outcomes of the NPM programme and will be expected to meet with the PRECISE-SG100K Scientific Committee on a regular basis to share their progress.

REVIEW PROCESS

1. All proposals will be reviewed by the PRECISE-SG100K Scientific Committee.
2. The guiding principle adopted by the PRECISE-SG100K Scientific Committee is to maximise use of the dataset, and to optimise the quality of the science carried out.
3. PRECISE-SG100K Scientific Committee may make suggestions for ways in which the research could be strengthened or may ask groups to work together if their proposals are overlapping.
4. Projects that are out of scope (e.g. do not align with participant consents) will be declined.
5. Data access for Flagship Projects will be made available under the PRECISE-SG100K Umbrella data access approval from TRUST[1] Data Access Committee (DAC).
6. Other approved Driver Projects will need to apply for data access separately to either TRUST DAC (if clinical data are requested) or the PRECISE-SG100K DAC (if only research phenotype and/or genomic data are requested).

[1] TRUST (Trusted Research and Real world-data Utilisation and Sharing Tech" Platform) is a national health-data exchange platform to facilitate secure data sharing and analysis of anonymised research and real-world data to support data analytics between public institutions, and between the public and private sectors.

TIMELINES*

1. Deadline for submission: **31 January 2024**
2. Applicant meetings with PRECISE-SG100K Scientific Committee
    (For shortlisted proposals):   **March 2024**
3. Initial Decision: **End March 2024**
4. TRUST trainings / approvals for Driver Projects: **April 2024**
5. 50K Data Freeze from PRECISE-SG100K (available for use):   **Q2 2024**

*The schedule may be subject to change.

Please submit completed application forms to PRECISE Programme Managers, Dr Ryan Luo (ryan.luo@precise.cris.sg) and Dr Kriti Sethi (kriti.sethi@precise.cris.sg) by 31 January 2024. Late or incomplete application forms will not be entertained.

PRECISE-SG100K SCIENTIFIC COMMITTEE MEMBERS:

Below are the details of all the members of the PRECISE-SG100K Scientific Committee.

S/N	Member Name	Designation
1.	Prof John Chambers	Chief Scientific Officer, PRECISE
2.	Prof Liu Jian Jun	Acting Executive Director, Genome Institute of Singapore
3.	Dr Sebastian Maurer-Stroh	Executive Director, Bioinformatics Institute
4.	A/P Sim Xueling	Associate Professor, NUS Saw Swee Hock School of Public Health
5.	A/P Enrico Petretto	Associate Professor, Duke-NUS Medical School
6.	Prof Cheng Ching-Yu	Professor, Duke-NUS Medical School, and NUS Ophthalmology
7.	Assistant Prof Saumya Shekhar Jamuar	Assistant Professor, Duke-NUS Medical School
8.	Assistant Prof Bernett Lee	Assistant Professor, Lee Kong Chian School of Medicine

Please direct all enquiries to PRECISE Programme Managers, Dr Ryan Luo (ryan.luo@precise.cris.sg) and Dr Kriti Sethi (kriti.sethi@precise.cris.sg).