

## **PRECISE Call for Sample Submission for Long-Read Sequencing**

### **Sample Administrative Requirements**

1. Human genetic **blood** samples excluding metagenomics.
2. There is no restriction on age, ethnicity, gender of the sample however the samples should have been collected from Singapore residents.
3. **Samples must have requisite IRB approval.**
4. Samples should ideally have consent for data linkage to Electronic Health Records.
5. Upon award, all samples mentioned in the proposal should be ready for sequencing within the next one month.

### **Sample Preparation and Submission Requirements**

1. Good quality gDNA eluted in 10 mM Tris-HCL, pH 7.8-8.4 at 8-10 ng/μl.
2. RNA-free double-stranded high molecular weight DNA. Single-stranded DNA is not compatible with the library preparation process.
3. Has not undergone multiple freeze-thaw cycles as this can lead to DNA damage.
4. Has not been exposed to high temperatures (e.g., >65°C for 1 hour can cause a detectable decrease in sequencing quality), pH extremes (<6 or >9).
5. Does not contain insoluble material.
6. Has not been exposed to intercalating fluorescent dyes or ultraviolet radiation. SYBR dyes are not DNA damaging but do avoid ethidium bromide.
7. Does not contain denaturants (e.g., Guanidinium salts or phenol) or detergents (e.g., SDS or Triton-X100).
8. Does not contain carryover contamination from the original organism/tissue (e.g., Heme, humic acid, polyphenols, etc.).
9. Meets the following quality control (QC) requirements for library construction. If you are awarded for this Call for Sample Submission, a QC report needs to be submitted during sample submission.

<b>QC parameter</b>		<b>Requirement</b>
Quantity	Samples @ 30X HiFi depth	5 μg
Size	DNA Size distribution	50% ≥ 30 kb and 90% ≥ 10 kb
Purity	OD260/280 ratio	1.8 – 2.0
	OD260/230 ratio	2.0 – 2.2
	Fluorometric and Spectrophotometric concentration reading comparison	<50% difference
Concentration	Fluorometric reading	8-10 ng/μl