NIHR GOSH BRC

Rare Disease Cross Cutting Theme Exemplar Standard Operating Procedure

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| **Processing of urine SOP** |
| Version:  | Author:  |
| Implementation date:  | Reviewed by: |
| Next Review date: | Date Reviewed:  |

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| 1.0 Purpose  |

Standard operating procedure to describe the collection, processing and storage of urine for research in rare diseases research as part of the NIHR GOSH BRC. Urine is able to be collected non invasively and is easily accessible, making it a good candidate for a bio sample in which you can measure potential biomarkers including metabolites, cells, proteins and nucleic acids. Please note this protocol is optimized for NMR analysis of urine metabolomics.

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| 2.0 Scope  |

This protocol applies to the processing of urine in labs with the required skills and equipment to follow this SOP.

General principle of consent, ethical and ethical regulations, data collection, safety and quality control should be adhered to at all times, as per laboratory specific procedures.

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| 3.0 Description, Protocol Overview  |

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| **Description**  |
| Biospecimen  | Urine |
| Biological Material  | Urine |
| Downstream Application  | *Each study to insert here*  |
| **Protocol Overview**  |
| Collection  |  |
| Handling  | precentrifugation delay of <1h at ambient temp, or <4 h if refrigerated  |
| Processing  | Centrifugation, separation of xxxxxxxxxx  |
| Storage  | Urine aliquots at -80 |

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| 3.0 Equipment  |

3.1 Collection

* Collection tube (*insert type here – should be sterile and additive free* )
* Specimen beg

3.2 Processing

* Sterile Eppendorfs (*insert specific size here*)
* Sterile Category 2 tissue Culture hood
* Sterile pipettes and appropriate tubes
* Centrifuge (*insert specifics here*)
* Sterile 10ml Syringe
* Syringe filer (0.2µM)
* 50ml falcon tube
* Sterile pasteur pipettes

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| 4.0 Procedures  |

4.1 Collection

4.1.1 Aim to collect mid-stream urine, and if possible from the second void of the day (2 – 4 hours post the first morning urine).

4.1.2 The urine collection tube should be securely closed and inverted 6 – 8 times. The urine tube should then be sealed inside a plastic specimen bag.

* + 1. The person collecting the urine sample should ensure that only the patient’s unique study identity code should be written on the tube itself in permanent black ink.
		2. The person collecting the urine sample should ensure the study id code, date and time of sample collection are recorded.

**4.2 Processing Procedure**

4.2.1 Record the time of sample arrival to the lab and the time processing started on the data collection form.

4.2.2 The sample is spun cooled (4 °C) for 15 minutes at 2500rpm (600 x g) using a micro- centrifuge.

4.2.3 Filter through a 0.2μM filter attached to a 10ml syringe into a sterile 50ml falcon tube.

4.2.4 Aliquot 1ml using a Pasteur pipette into 1.5ml sterile eppendorfs (maximum 6 aliquots) that have been labelled with the patient code, date and sample type and time point.

4.2.5 The processor should ensure that no patient identifiable data is written on study tubes.

4.2.6 The number and volume of aliquots should be recorded.

**4.3 Storage Procedure**

4.3.1 Samples should be immediately placed in a -80°C freezer and both location and time to freezer recorded.

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| 5.0 Related Paperwork and Additional SOPs.  |

* Health and safety, as per laboratory.
* Data collection form