PhenX Toolkit

Data Collection Worksheet

Please Note: The Data Collection Worksheet (DCW) is a tool to aid integration of a PhenX protocol into a study. The PhenX DCW is not designed to be a data collection instrument. Investigators will need to decide the best way to collect data for the PhenX protocol in their study. Variables captured in the DCW, along with variable names and unique PhenX variable identifiers, are included in the PhenX Data Dictionary (DD) files.

1. Specimen Collection, Storage, and Handling Procedures; Criteria for Specimen Rejection

A. Specimen should be collected in a Red-Top tube that is prescreened for trace metal contamination. Specimen-type serum, optimal amount of specimen required is 2-3 mL, minimum volume required for analysis is about 0.8 mL.

B. Specimens may reach and maintain ambient temperature during analysis. Stringent precautions should be taken to avoid external contamination by the metals to be determined.

C. The criteria for unacceptable specimens are either a low volume (<0.8 mL) or suspected contamination due to improper collection procedures or collection devices. In all cases, a second specimen should be requested.

D. Specimen characteristics that may compromise test results include contamination of serum by contact with dust, dirt, etc. from improper handling.

E. In general, handle specimens in ways that prevent microbial growth. Serum specimens should be transported and stored at 4°C. Once received, they can be frozen at -20°C or at -70°C until time for analysis. Portions of the sample that remain after analytical aliquots are withdrawn and should be refrozen at -20°C. Samples thawed and refrozen several times are not compromised. Dried blood spots are also suitable.

2. Detection Ranges Reference Ranges (Normal Values) adapted from National Committee for Clinical Laboratory Standards (NCCLS) 38A(3): Selenium

Age	µg/L	µmol/L
Preterm	35-94	0.44-1.19

Full Term	57-96	0.72-1.21
1-5 years	96-144	1.22-1.82
6-9 years	101-162	1.28-2.05
10-16 years	103-186	1.31-2.35
Adult	109-181	1.38-2.29

Protocol source: https://www.phenxtoolkit.org/protocols/view/50901