GUIDE

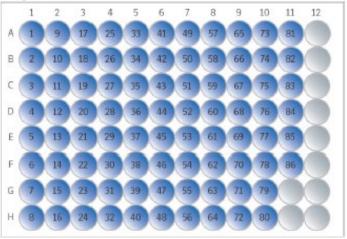# Proteomics Sample Randomization Guidelines

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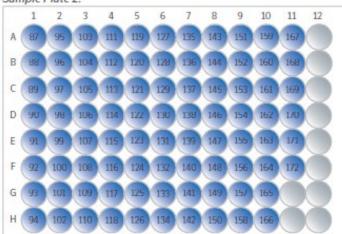## 1. Sample Submission Guidelines for Olink® Explore HT

The ideal way to submit samples for Olink Explore HT is in a FrameStar plate with 86 samples per plate. The samples should be randomized across all plates submitted for a project. Please leave wells G11, H11, A12, B12, C12, D12, E12, F12, G12, H12 empty as controls are added in these locations.

Please see below for a visual reference of the ideal way to submit one batch for Olink Explore HT processing, with the numbers 1-172 representing individual samples.
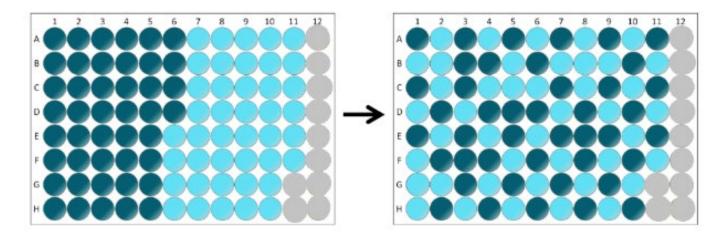

Sample Type	Remarks	Quantity	Shipping Method
Human serum/plasma	Required	>20 µl	Dry ice
	Recommended	50 µl	

2. Instructions for Randomization

Samples should be well randomized to avoid bias based on plate or location within a batch. If randomization is not performed, then a biological variation may be missed or misidentified as a technical variation. Clients who randomize may do so under their own method, but two options for different methods are displayed below. Samples that are processed on more than one batch should be randomized between all batches; however, it is recommended that samples from the same patient are processed on the same plate. Below is an example of a plate that has been randomized for Olink Explore HT.

Method 1:

Randomize using a Plate Randomizer tool with coding according to instructions here: https://cran.r-project.org/web/packages/OlinkAnalyze/vignettes/plate_randomizer.html
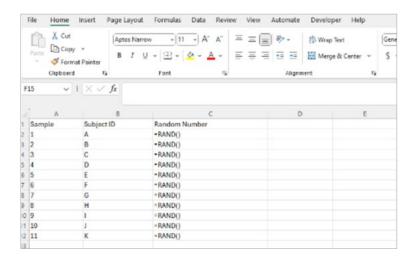
Method 2:

Randomize all samples in Microsoft Excel.

1 Copy a list of all samples in Excel in one column with a header. If multiple sample identifiers are to be used, then arrange in a table with multiple columns.
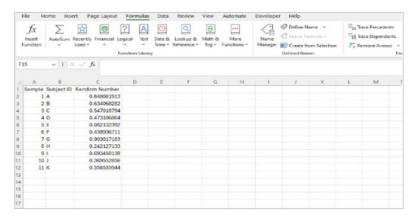
   In an adjacent column, to the right of the data, paste the following formula: =RAND()
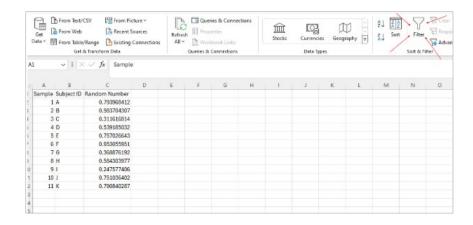
2. Instructions for Randomization (cont.)

Method 2 (cont.): Randomize all samples in Microsoft Excel.

2 This will return a random number between 0 and 1.

3 Select all entries within the sheet. Go to the *Data* tab at the top of the program and select data. Click on *Filter*.

4 Sort the data by the random number from smallest to largest.

Use this to arrange your samples within each plate in the configuration indicated on page 3.