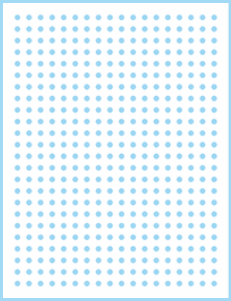
Olink®

Analysis Report



Olink® Explore

PROJECT NAME	LCSET-27866_2023-08-28
ISSUE DATE	2023-08-29
CONTACT	N/A
	N/A
BUSINESS DEVELOPMENT MANAGER	N/A
	N/A
ANALYSIS LAB	N/A
	N/A

1. Project information

No. of samples	Normalization method
88	Intensity normalization

1.1 Sample matrix

N/A

1.2 Project specific comments

Block A in the Oncology panel may have some useable data but should be used at your own discretion. Blocks B-D should not be used for downstream analysis.

The following assays did not meet Olink's batch release quality control criteria and are therefore not included in this project: Explore 384 Cardiometabolic assays: BMP6, EPHX2 and PGLYRP1, Explore 384 Cardiometabolic II assays: EDEM2, CALY, ARL13B and ARNTL, Explore 384 Inflammation assays: BCL2L11, BID and MGLL, Explore 384 Inflammation II assays: EP300, FGF3, FUOM, KNG1 and ADIPOQ, Explore 384 Neurology assays: CDHR1, CLSTN1, PSG1, CGA and EFNA1, Explore 384 Neurology II assays: HTR1B, KCNH2, STXBP1 and YAP1, Explore 384 Oncology assays: FLI1, MPI, EBI3_IL27 and ANGPTL7 and Explore 384 Oncology II assays: CPLX2, TAGLN3, GABARAPL1, NFKB2, CTAG1A_CTAG1B, OGT, MTHFSD, IFIT1, TNPO1, MAGEA3, SH3GL3 and RAPGEF2.

Please note that data for TDGF1, PNLIPRP2 and FOLR3 has been plate control normalized because these assays show a natural bimodal distribution. For more info see https://www.olink.com/faq-category/data/

2. Quality control

Three internal controls are added to each sample, the Incubation control, the Extension Control and the Amplification control. The Extension Control is used for the generation of the NPX values. The Incubation Control and the Amplification Control are used to monitor the quality of assay performance, as well as the quality of individual samples.

Three external controls are included in each run, the Plate Control (healthy pooled plasma), Sample Control (healthy pooled plasma) and Negative Control. The Plate Control is used for data normalization, the Sample Control is used to assess potential variation between runs and plates, and the Negative Control is used to calculate Limit of Detection for each assay and to assess potential contamination of assays.

The following parameters are evaluated in the Quality Control (QC):

1. The average matched counts[1] for each sample. To pass QC, there should be at least 500 counts, otherwise the sample receives a QC warning status.

2. The deviation of the median value of the Negative Controls from a predefined value set for each assay. To pass QC, the deviation of the median of the Negative Controls must be less or equal to 5 standard deviations from the set predefined value, otherwise the assay will receive a warning status.

All samples included in the project are presented in the data output file. Samples that do not pass the QC are indicated with WARN in the column named QC_warning. Data points from samples that do not pass QC should be treated with caution. Manual QC warnings are indicated with MANUAL_WARN in the column named QC_warning. Section 2.1 reports the fraction of samples that pass QC for all assays per panel and the fraction of data points passing QC per panel. Samples with manual QC warning are counted as not passed QC. Assays that do not pass the QC are indicated with WARN in the column named Assay_warning. Data points from assays that do not pass QC should be treated with caution.

[1] The number of reads for each specific combination of sample and assay.

2.1 QC summary

Olink Panel	Samples passed QC	Samples passed QC (%)	Datapoints passed QC	Datapoints passed QC (%)
Explore 384 Cardiometabolic	88 / 88	100	32208 / 32208	100
Explore 384 Cardiometabolic II	88 / 88	100	31944 / 31944	100
Explore 384 Inflammation	88 / 88	100	32120 / 32120	100
Explore 384 Inflammation II	88 / 88	100	32120 / 32120	100
Explore 384 Neurology	88 / 88	100	31856 / 31856	100
Explore 384 Neurology II	88 / 88	100	31944 / 31944	100
Explore 384 Oncology	5 / 88	6	18569 / 32032	58
Explore 384 Oncology II	88 / 88	100	31328 / 31328	100

2.2 Intra- and Inter-assay Coefficient of Variance (%CV)

Intra- and inter-CVs are based on the Sample Controls (pooled plasma samples) included on each sample plate. Calculations are made for each assay using NPX-values. Average % CV for all assays on a panel is presented in section 2.2.1. The number of assays with CVs within defined intervals are presented in sections 2.2.2 and 2.2.3.

2.2.1 Average %CV

Olink Panel	Intra-assay %CV	Inter-assay %CV
Explore 384 Cardiometabolic	10	10
Explore 384 Cardiometabolic II	16	16
Explore 384 Inflammation	8	8
Explore 384 Inflammation II	13	13
Explore 384 Neurology	9	9
Explore 384 Neurology II	18	18
Explore 384 Oncology	13	13
Explore 384 Oncology II	18	18

2.2.2 Intra-assay %CV distribution

Olink Panel	≤5%	>5 - 10%	>10 - 15%	>15%	N/A*
Explore 384 Cardiometabolic	126	86	71	66	17
Explore 384 Cardiometabolic II	76	52	44	129	62
Explore 384 Inflammation	159	94	37	37	38
Explore 384 Inflammation II	73	92	46	92	62
Explore 384 Neurology	122	113	51	42	34
Explore 384 Neurology II	54	52	47	118	92
Explore 384 Oncology	23	11	13	28	289
Explore 384 Oncology II	47	53	49	134	73

* Assays where CV is not possible to calculate

2.2.3 Inter-assay %CV distribution

Olink Panel	≤10%	>10 - 20%	>20 - 30%	>30%	N/A*
Explore 384 Cardiometabolic	212	103	25	9	17
Explore 384 Cardiometabolic II	128	81	52	40	62
Explore 384 Inflammation	253	49	12	13	38
Explore 384 Inflammation II	165	74	38	26	62
Explore 384 Neurology	235	65	13	15	34
Explore 384 Neurology II	106	74	46	45	92
Explore 384 Oncology	34	25	12	4	289
Explore 384 Oncology II	100	80	57	46	73

* Assays where CV is not possible to calculate

3. Protein detection results

3.1 Number of proteins detected in >50% of the samples

Olink Panel	No. of detected proteins / Total no. of proteins	Detected proteins (%)
Explore 384 Cardiometabolic	293 / 366	80
Explore 384 Cardiometabolic II	155 / 363	43
Explore 384 Inflammation	197 / 365	54
Explore 384 Inflammation II	193 / 365	53
Explore 384 Neurology	121 / 362	33
Explore 384 Neurology II	87 / 363	24
Explore 384 Oncology	108 / 364	30
Explore 384 Oncology II	86 / 356	24

3.2 Data output

Data is presented as NPX (Normalized Protein eXpression) values. NPX is Olink's relative protein quantification unit on log2 scale. NPX values are calculated from the number of matched counts, using NGS (Next Generation Sequencing) as readout. The NPX values are presented in a separate results file. Data values for measurements below limit of detection (LOD) are reported for all samples.

4. Software version information

The results presented in this document have been calculated using version 3.5.3 of the Explore calculation module.