

## **OLINK® at WEHI and MPMP**

### At a Glance

Olink® technologies use a Proximity Extension Assay (PEA) approach enabling the simultaneous quantification of hundreds of low abundant **human (and to some extent mouse) proteins and biomarkers** such as **chemokines, cytokines** and **interleukins**.

The [Monash Proteomics & Metabolomics Platform \(MPMP\)](#) is set up to offer **Mid-plex** Olink service, while [WEHI Advanced Genomics Facility](#) offers a **High-plex** Olink service (Table 1). Please visit Olink's website for further information: <https://olink.com/>.

**Table 1: Summary of Olink technologies available.**

Technology	Format	# Samples	# Assays / Biomarkers	Quantification	Product type and lead time <sup>#</sup>
<b>Explore-HT</b>	High-plex	172	<b>5,416</b>	Relative (NPX)	Off-the-shelf; none
<b>Explore</b>	High-plex	88	<b>3,072<sup>&amp;</sup></b>	Relative (NPX)	Off-the-shelf; none
<b>Target96</b>	Mid-plex	88	<b>1,100<sup>@</sup></b>	Relative (NPX)	Off-the-shelf; none
<b>Target48</b>	Mid-plex	40	<b>45</b>	Absolute (pg/ml)	Off-the-shelf; none
<b>Flex</b>	Mid-plex	40	<b>15-21<sup>\$</sup></b>	Absolute (pg/ml)	Customizable made-to-order; 3-5 weeks
<b>Focus</b>	Mid-plex	144 (AbsQ) or 162 (RelQ)	<b>1-21<sup>^</sup></b>	Depending on sample number	Developed for customer by OLink; 4-6 months

<sup>#</sup> Please note that 'lead time' refers to the time it takes Olink to produce the kits/panels

<sup>@</sup> Across 15x different 96 kits/panels.

<sup>\$</sup> To choose from a library of approx. 200 assays

<sup>^</sup> To choose from OLink's full assay library, incl. optimization

<sup>&</sup> Across 8x modular 384 kits/panels

## Olink platforms and panels

### Mid-plex

#### Target-96

Mid-plex Olink technology is run at MPMP using the Olink Signature Q100 system, for maximum flexibility.

A total of 15 pre-designed, off-the-shelf Target96 panels are available containing 92 protein assays each. 14 kits are tailored towards human biomarkers, whilst one exploratory mouse panel is available. The individual protein assay lists are shown on pages 4-33, but they can also be directly accessed via these links:

<a href="#">Cardiometabolic (92)</a>	<a href="#">Neuro Exploratory (92)</a>	<a href="#">Organ Damage (92)</a>
<a href="#">Cardiovascular II (92)</a>	<a href="#">Neurology (92)</a>	<a href="#">Development (92)</a>
<a href="#">Cardiovascular III (92)</a>	<a href="#">Oncology II (92)</a>	<a href="#">Metabolism (92)</a>
<a href="#">Immuno-Oncology (92)</a>	<a href="#">Oncology III (92)</a>	<a href="#">Regulation (92)</a>
<a href="#">Immuno-Response (92)</a>	<a href="#">Inflammation (92)</a>	<a href="#">Mouse Exploratory (92)</a>

#### Target-48

There are two Target48 Cytokine panels available, which measure ~45 carefully selected inflammatory proteins from either mouse (Olink Target 48 Mouse Cytokine) or human (Olink Target 48 Cytokine). The corresponding protein assay list are shown on page 34/35, but can also be found [here](#).

### Flex (Mix-and-Match) technology

Olink Flex is a customizable made-to-order product that enables the selection and combination of up to 21 human proteins into one biomarker panel. Mix and match from ~200 thoroughly pre-validated protein biomarkers. Additional information including a complete list of Flex assays can be found [here](#) or on pages 36-38.

### Focus technology

Designed by you and optimized together with Olink to meet your specific needs. Select up to 21 proteins from Olink's full assay library.

Email [ralf.schittenhelm@monash.edu](mailto:ralf.schittenhelm@monash.edu) for more information on the Olink Target, Cytokine, Flex or Focus service at MPMP.

## High-plex

### Explore-384 / Explore-3072

High-plex Olink technology is run at WEHI Advanced Genomics Facility, using Illumina Next Generation Sequencing for cost-efficient data collection output at scale.

Eight pre-designed, off-the-shelf Explore panels are available, each of which quantifies 362 protein biomarkers. These panels are designed to be modular, with no overlap of assays (apart from CXCL8, IL6, and TNF, which are included in all “I” panels, and IDO1, LMOD1, and SCRIB, which are included in all “II” panels). The complete set of 8x Explore-384 panels together is designated Explore-3072.

A complete protein assay list is available via this link: [Explore-3072 panels, assays and validation data](#).

Available Explore-384 panels are:

<a href="#">Inflammation I</a>	<a href="#">Neurology I</a>	<a href="#">Cardiometabolic I</a>	<a href="#">Oncology I</a>
<a href="#">Inflammation II</a>	<a href="#">Neurology II</a>	<a href="#">Cardiometabolic II</a>	<a href="#">Oncology II</a>

### Explore-HT (5416)

A single kit including the complete set of protein biomarker detection assays from Olink, designed to be run in high-throughput for maximum novel biomarker discovery. This platform is not modular, and generates protein quantification data for 5416 proteins during each batch, while each batch processes 172 samples.

The complete list of Explore-HT assays is available at this link: [Explore-HT biomarker list](#).

Email [olink@wehi.edu.au](mailto:olink@wehi.edu.au) for more information on the Olink Explore service at WEHI.