

# Data appendix to the White paper:

Multiplex analysis of inflammatory proteins: A comparative study across multiple platforms

## Appendix content

This appendix contains several graphs. Olink results are shown in the left-hand column, MSD in the middle and Luminex to the right. Please note that the y-axis scales differ between platforms for some assays.

In this study, Olink, MSD and Luminex had an overlap of 20 assays. Olink and MSD had an additional overlap of 13 assays, and those results are therefore presented without associated Luminex data.

The MSD V-plex platform was used for as many assays as possible. U-plex was used for the following assays: FLT3LG, G-CSF, IL-17F, IL-33, I-TAC, MCP-2, MIP-3b, SDF-1a and TRAIL. For these assays LLOQ and ULOQ is not available.

### Dilution

The first section shows parallelism between Olink, MSD and Luminex, calculated using dilution series in buffer. Each sample is displayed with the same color in the plot throughout all charts. Visually the dilution series should be linear. Note that Luminex displays higher concentrations and changed order of samples compared to Olink and MSD for several assays. Concentrations below the dotted line are under the Lower limit of quantification (LLOQ). Note that nine assays were measured on an MSD U-PLEX panel and has no LLOQ or ULOQ limit calculated.

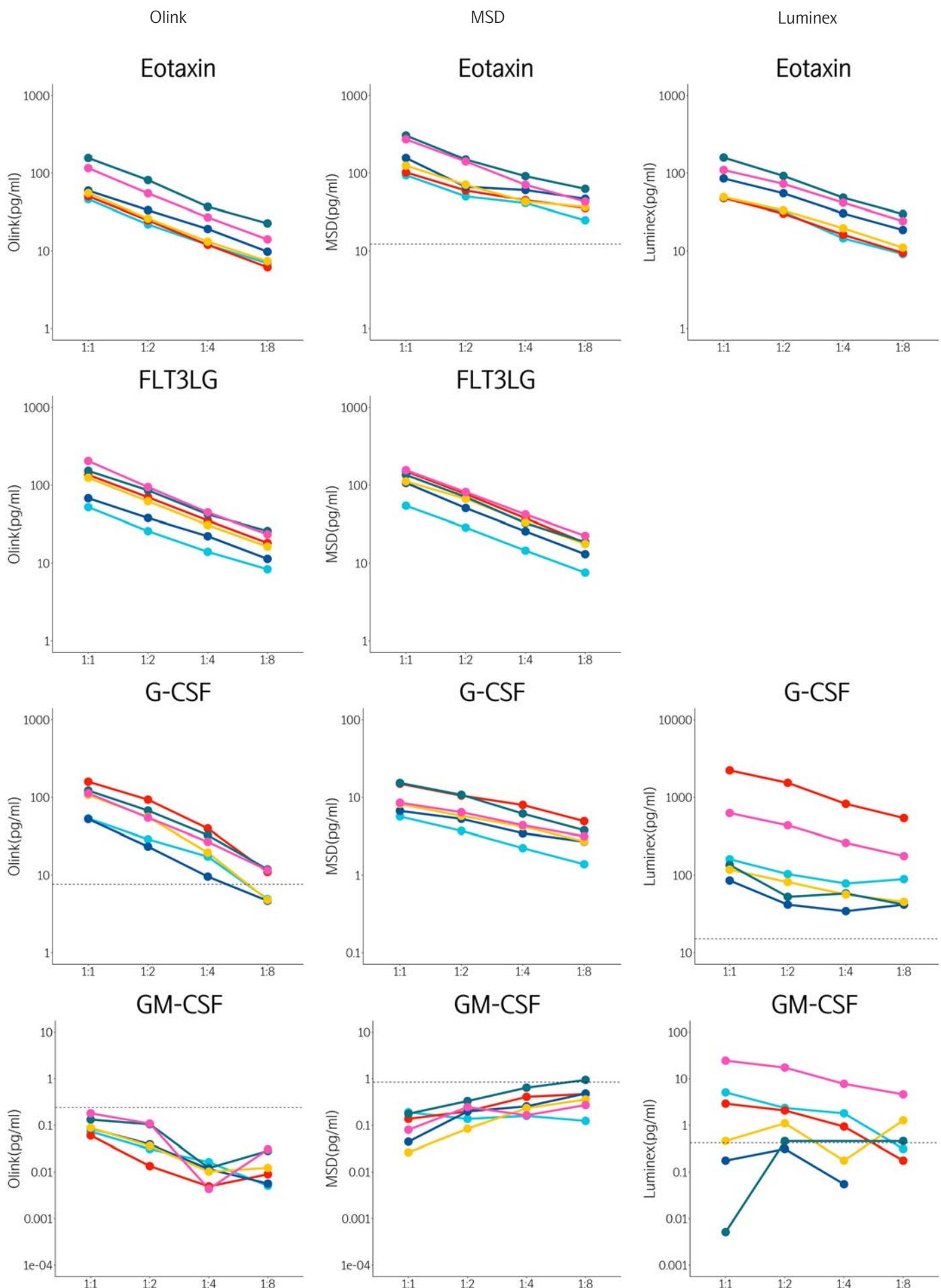
### Linearity

The second section shows platform linearity. The graphs display measured and theoretical concentrations. Bars indicate standard deviation and the percentage represents accuracy for each point.

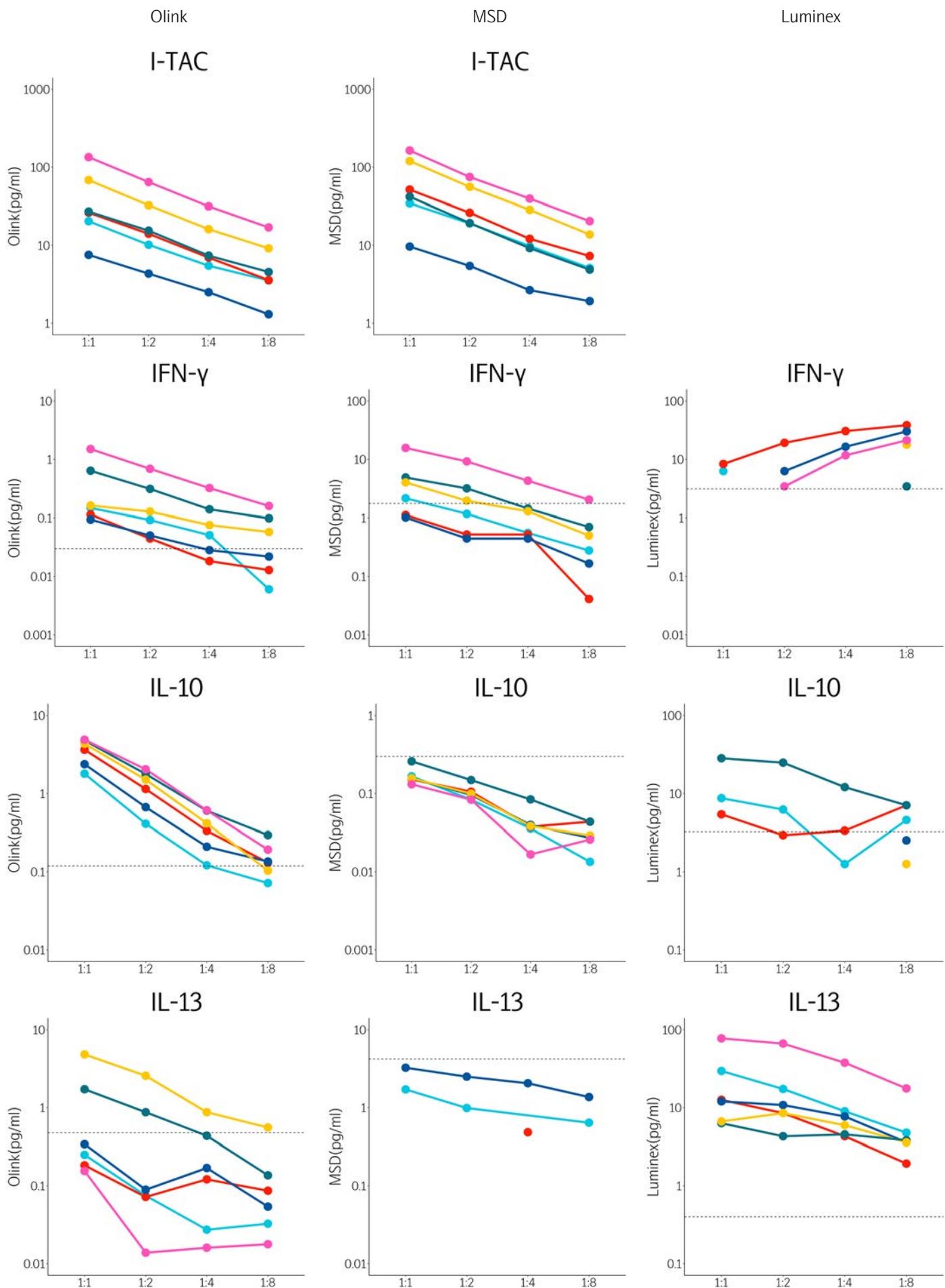
### Validation data

The third section includes a table that contains validation data for Olink Explore 1536 and Olink Target 48 Cytokine .

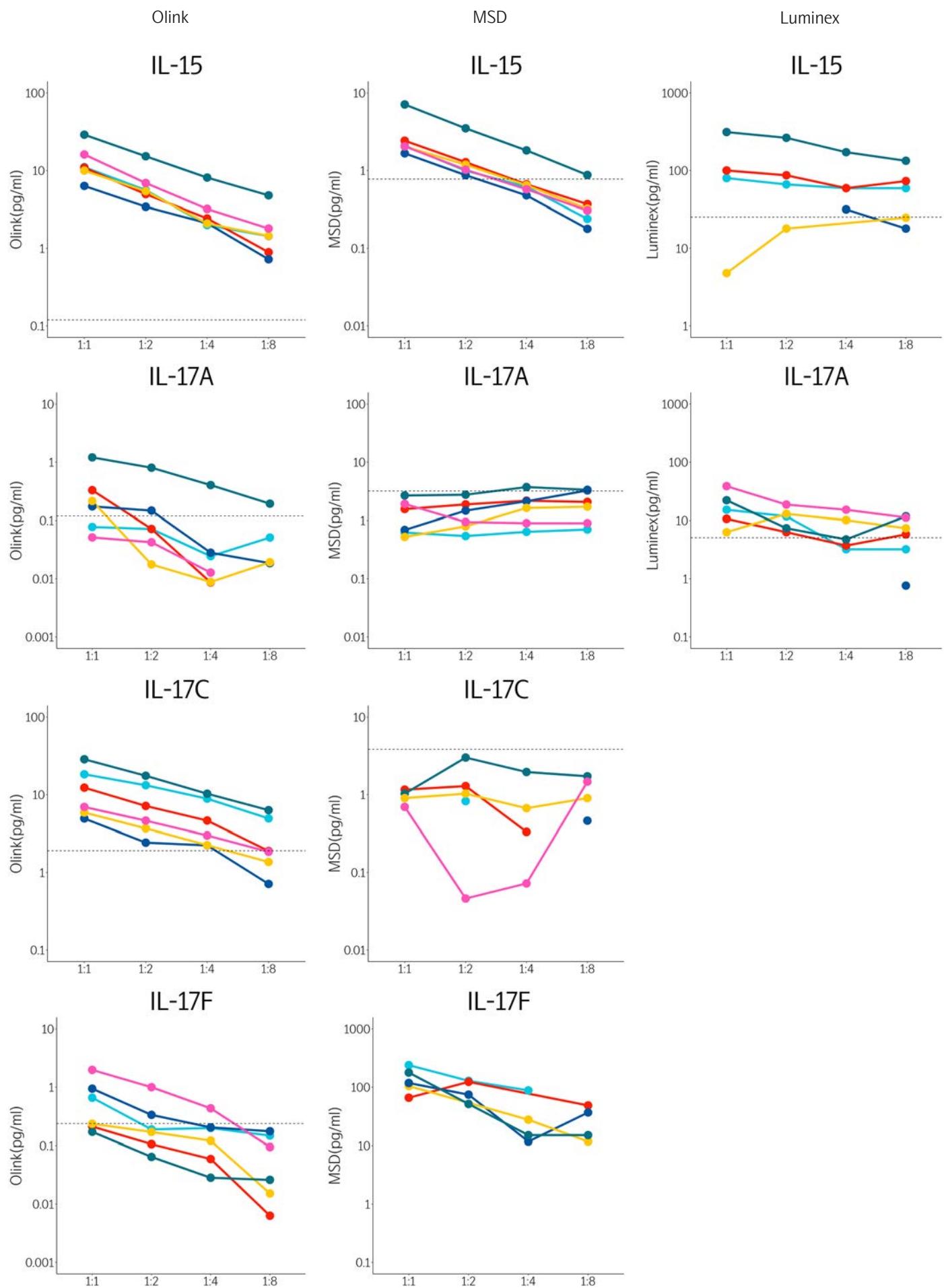
# Dilution



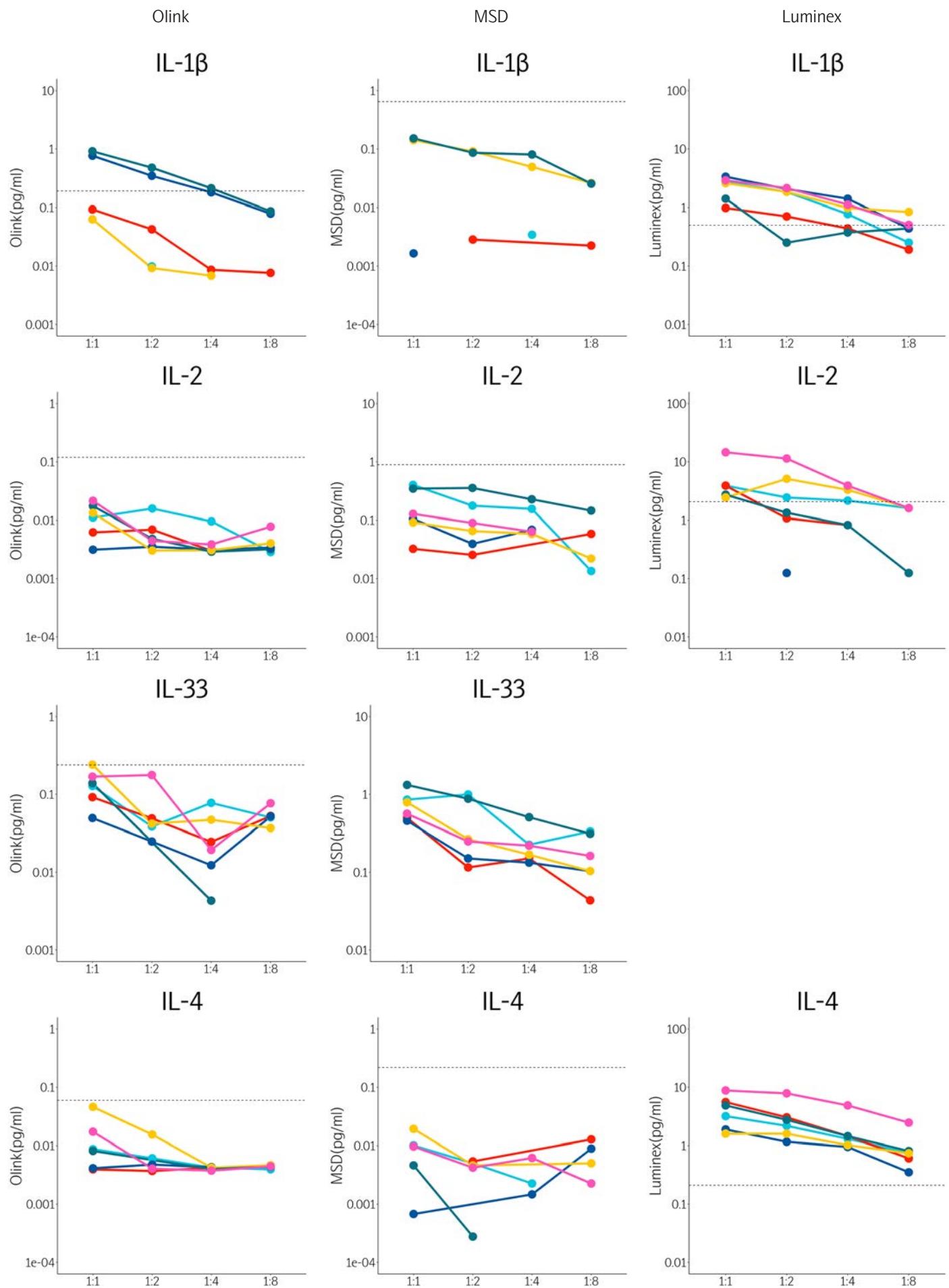
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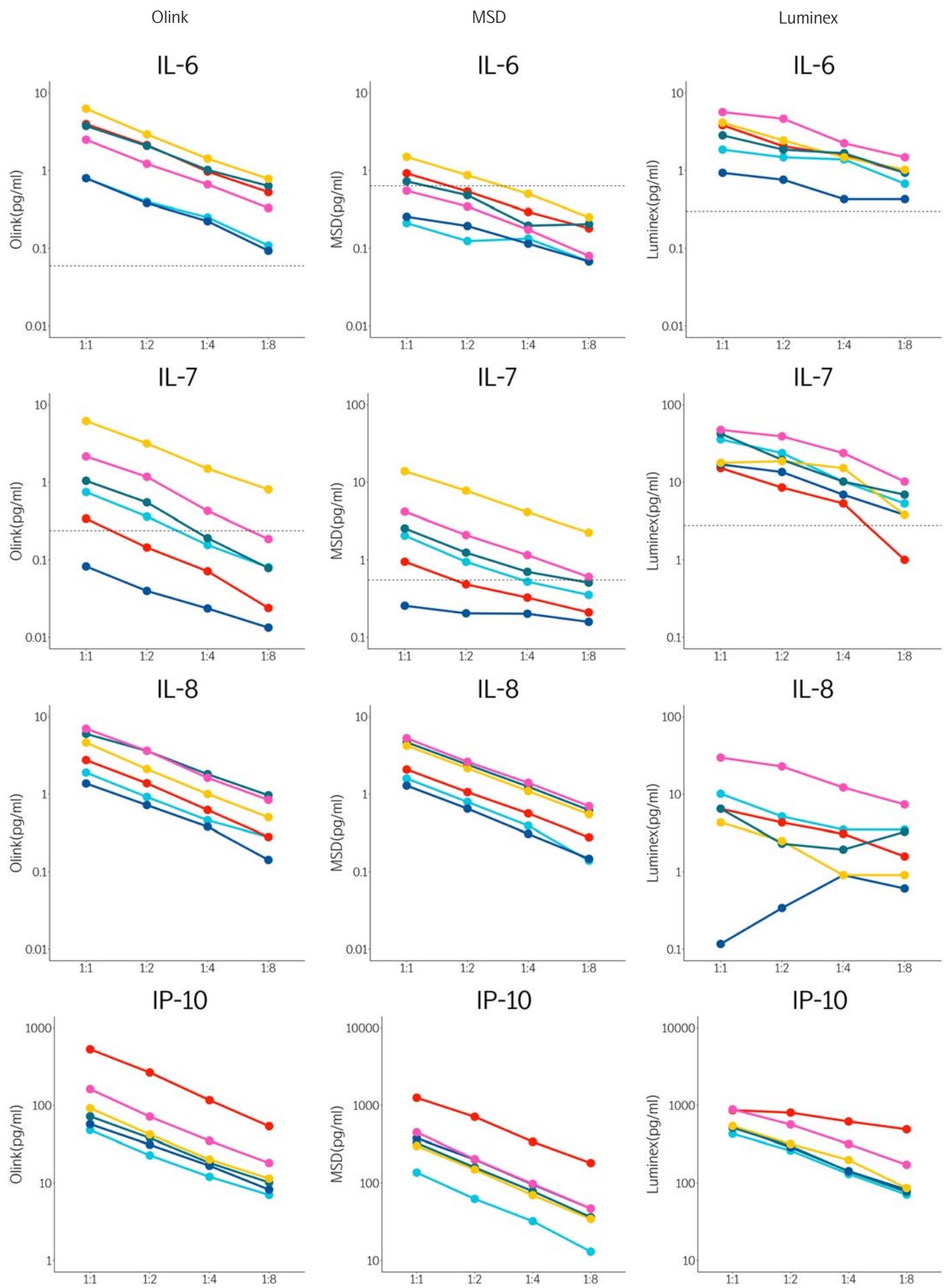
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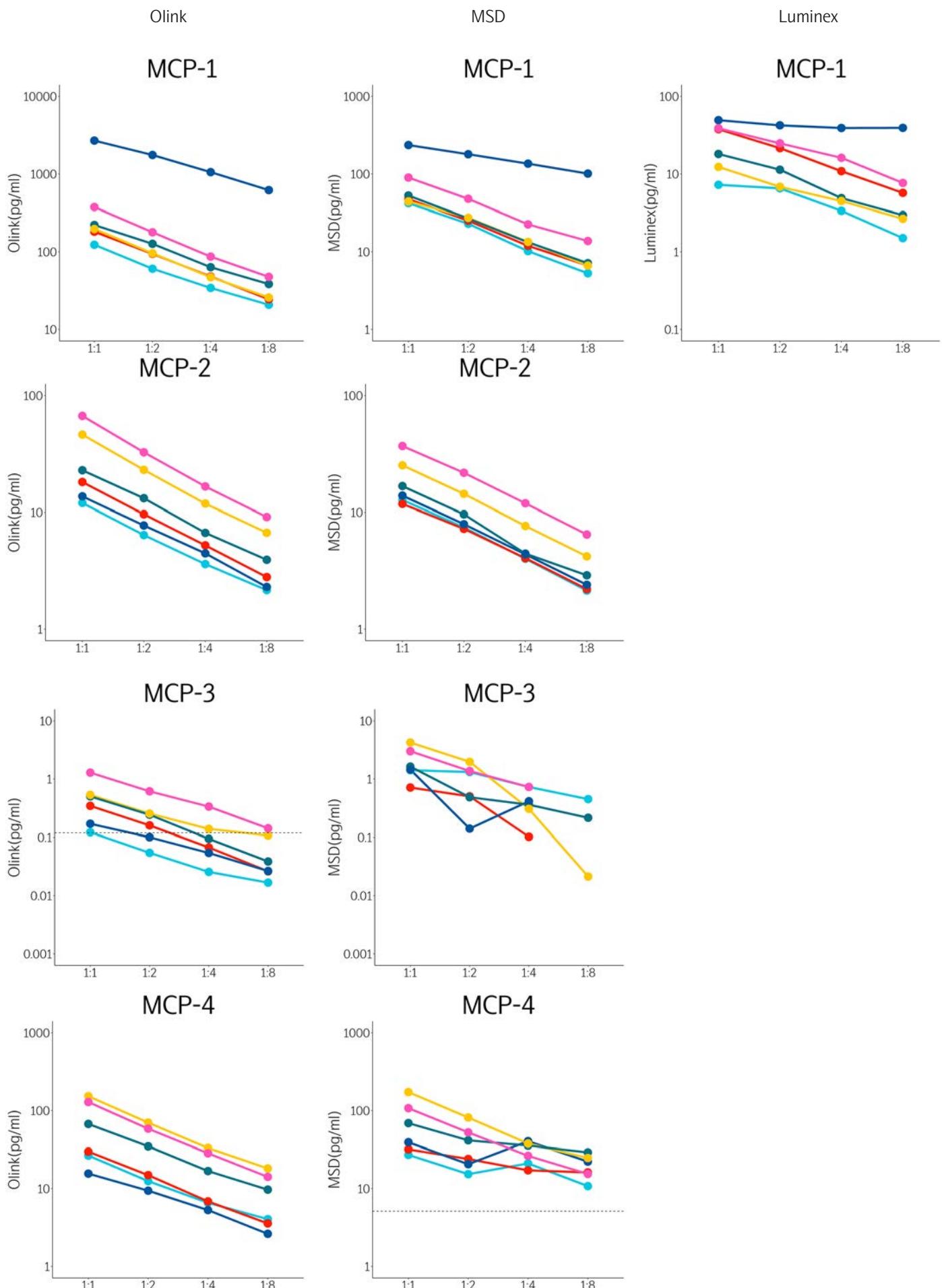
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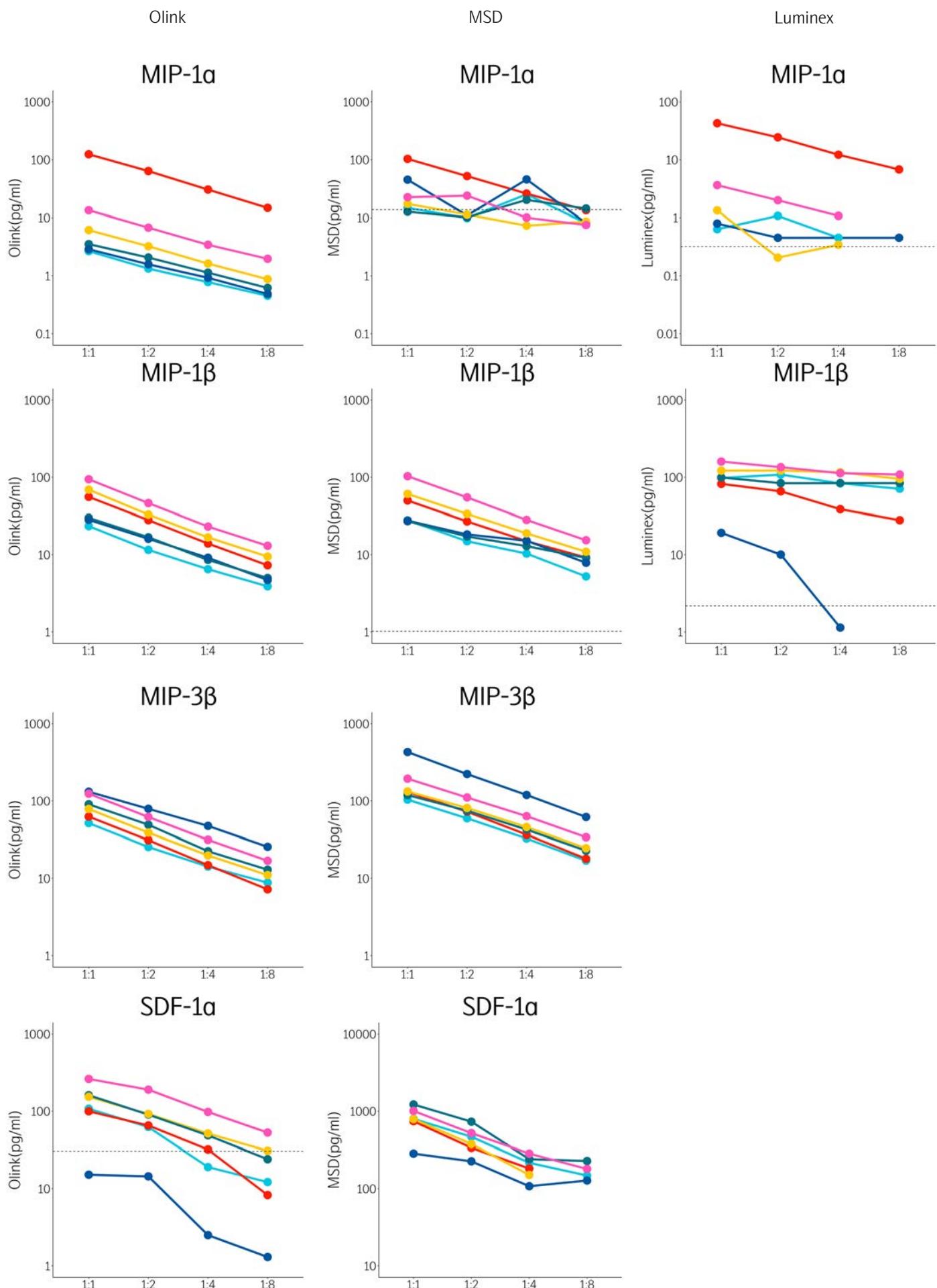
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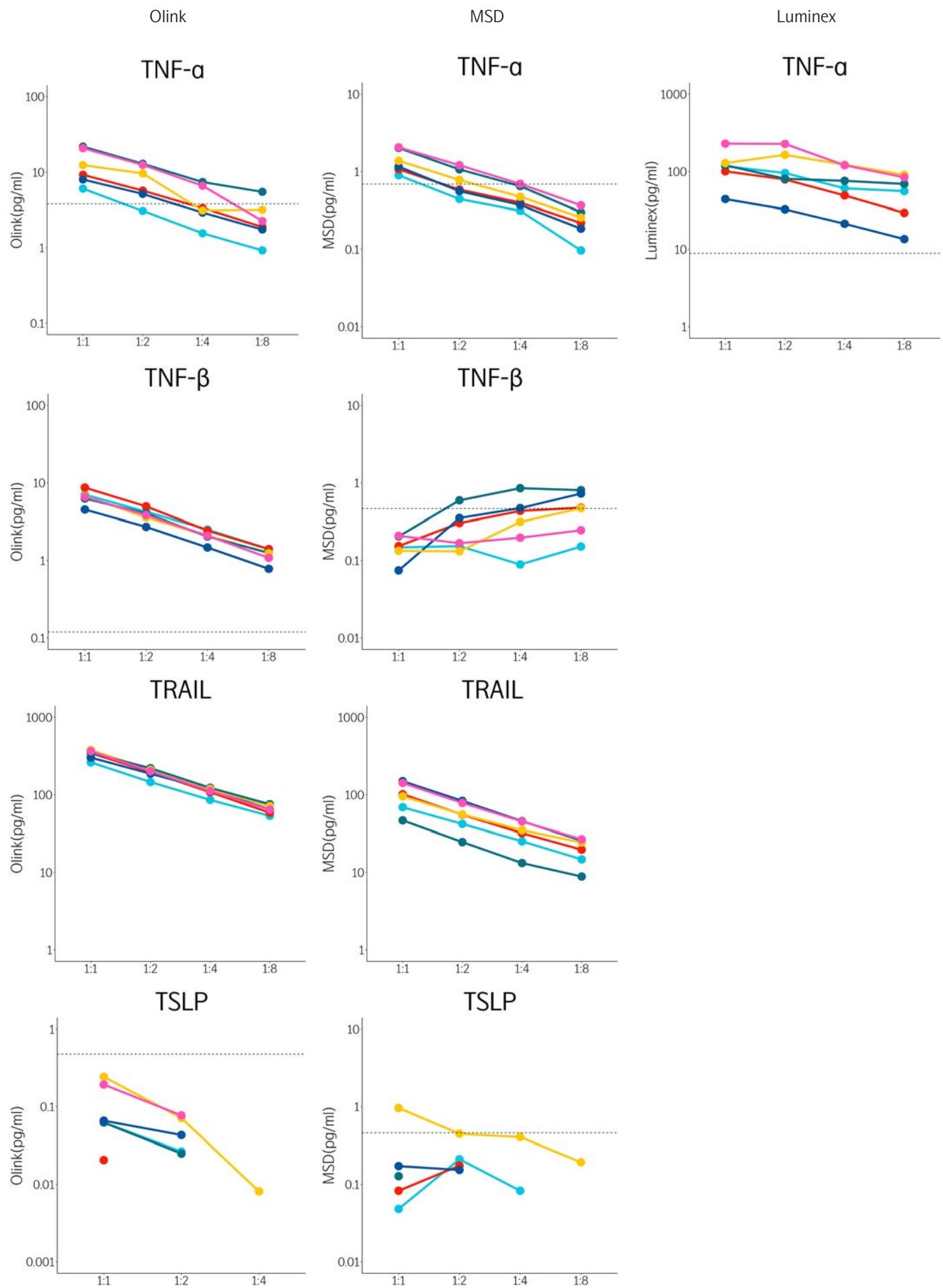
# Dilution



# Dilution

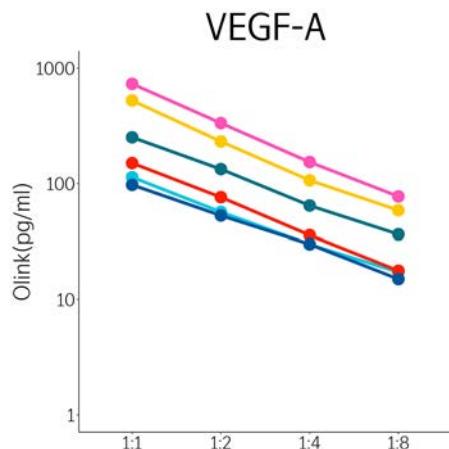


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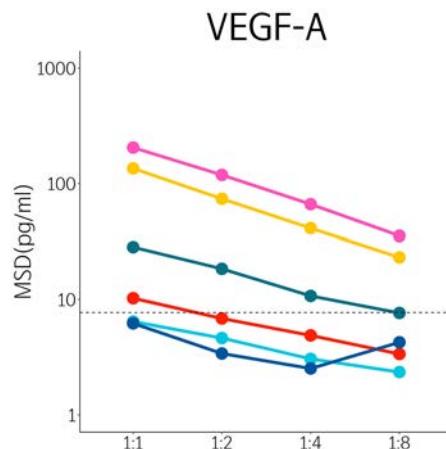


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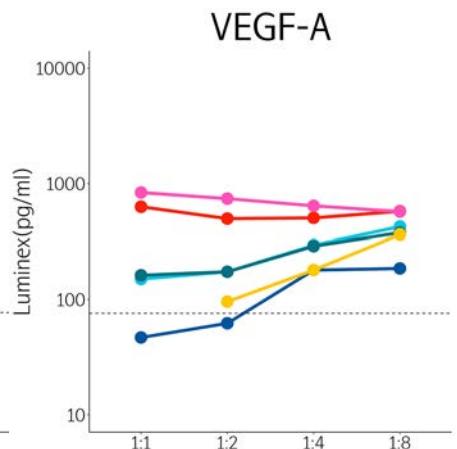
Olink



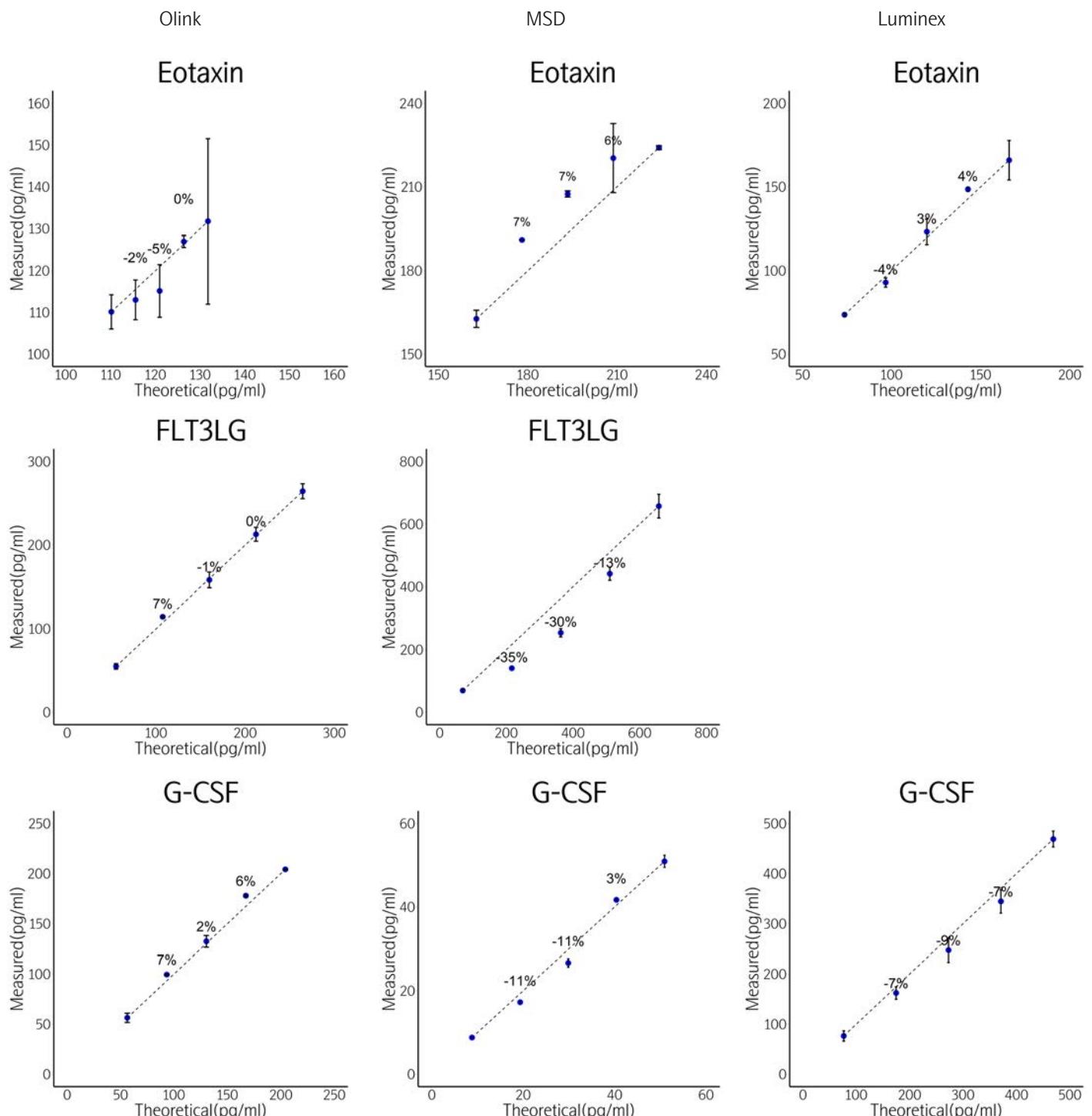
MSD



Luminex



# Linearity



GM-CSF Olink

Values below LLOQ

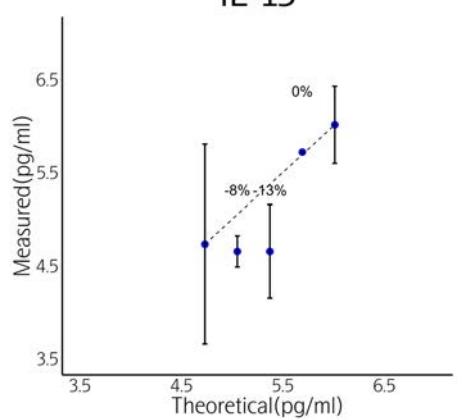
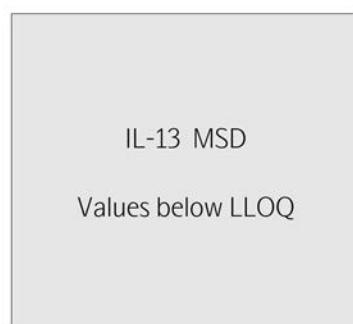
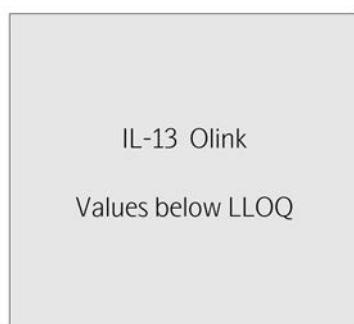
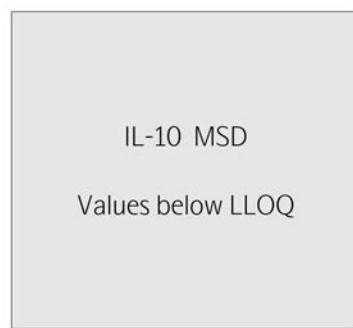
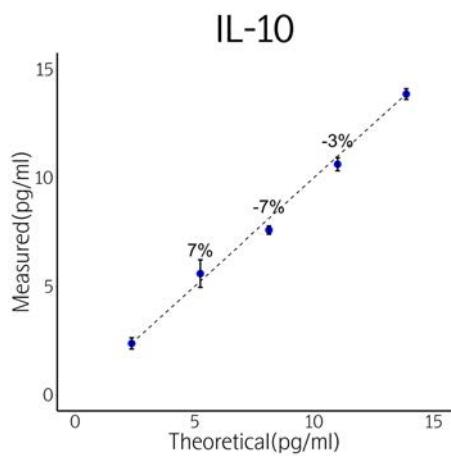
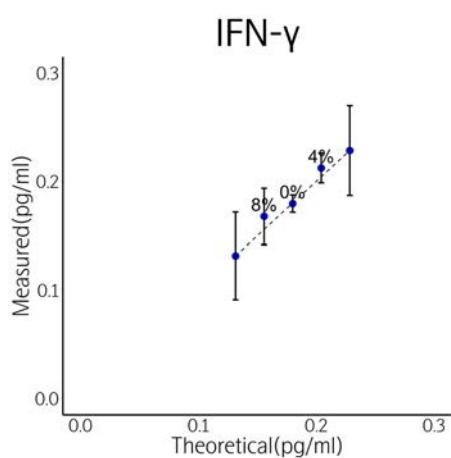
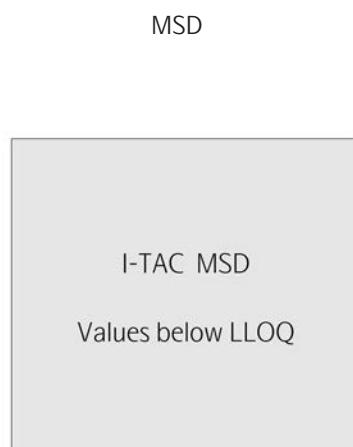
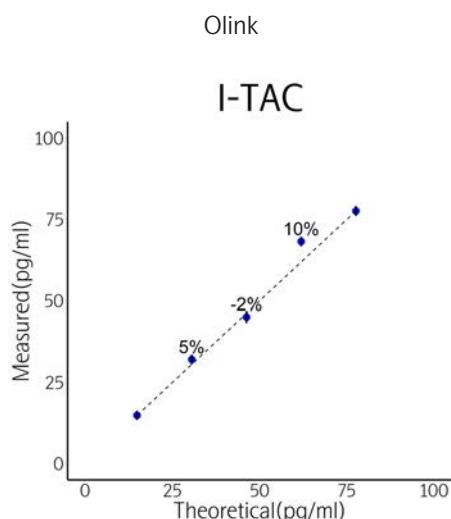
GM-CSF MSD

Values below LLOQ

GM-CSF Luminex

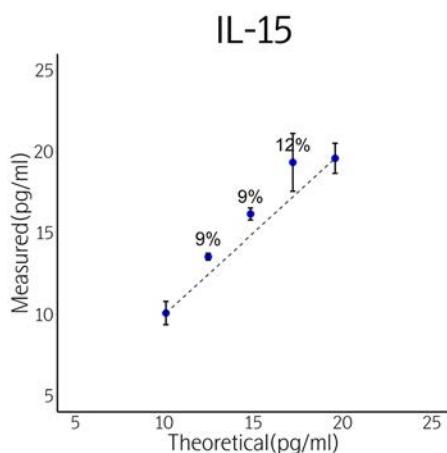
Values below LLOQ

## Linearity

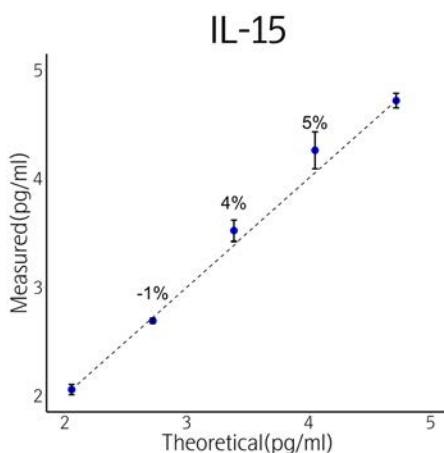


# Linearity

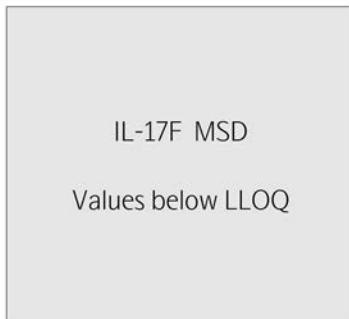
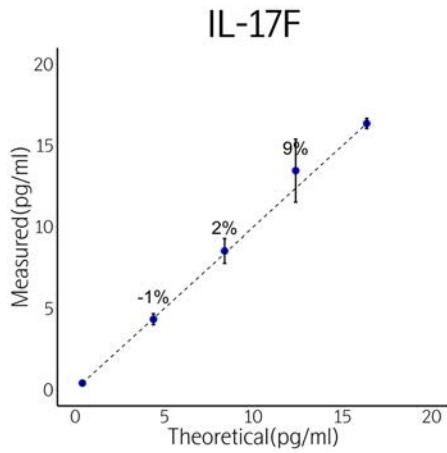
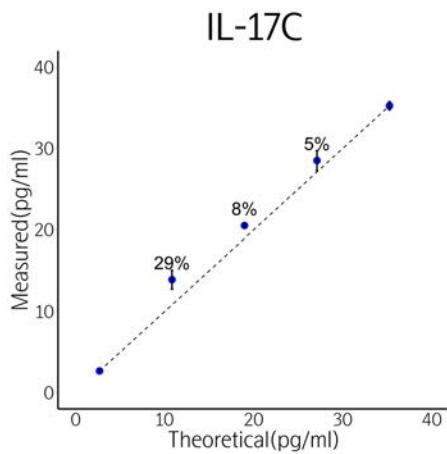
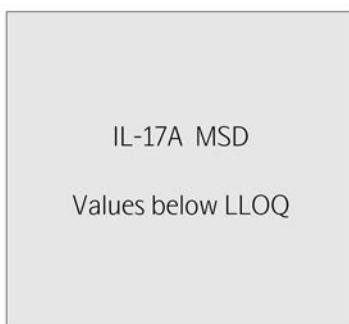
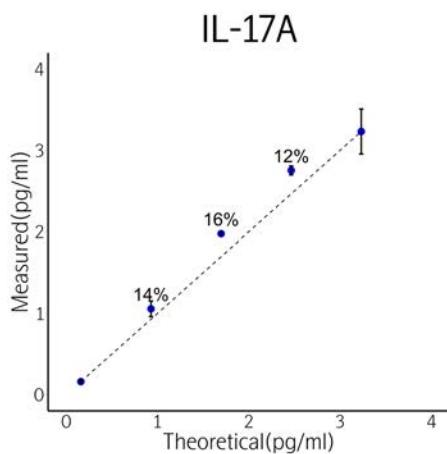
Olink



MSD



Luminex

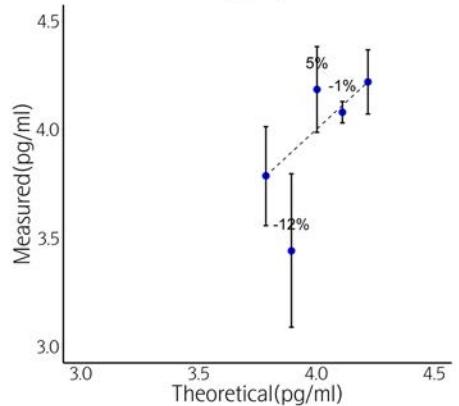
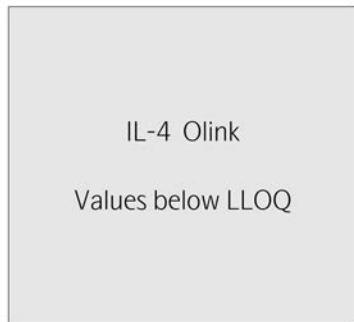
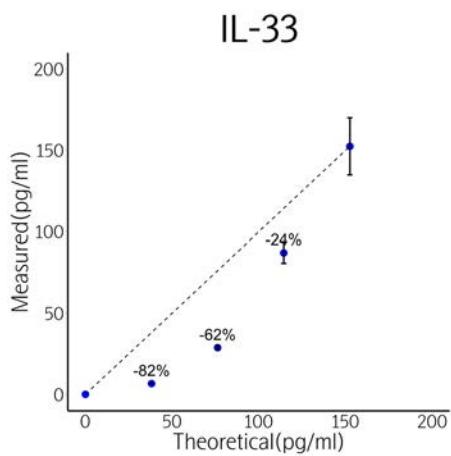
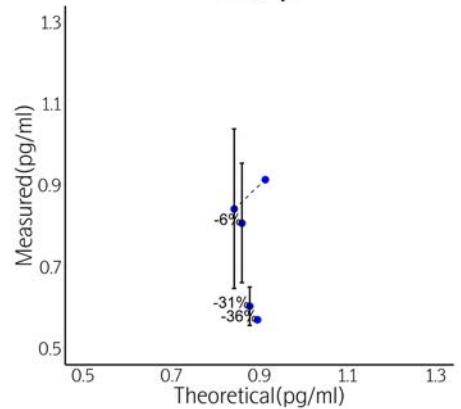
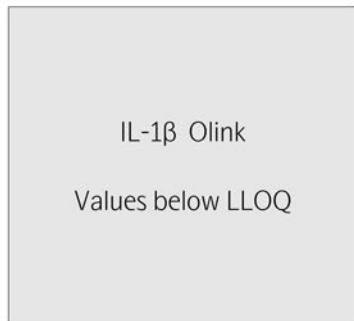


# Linearity

Olink

MSD

Luminex



# Linearity

Olink



MSD



Luminex



IL-7 Olink

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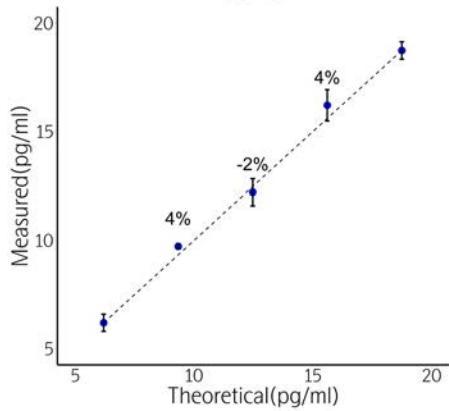
IL-7 MSD

Values below LLOQ

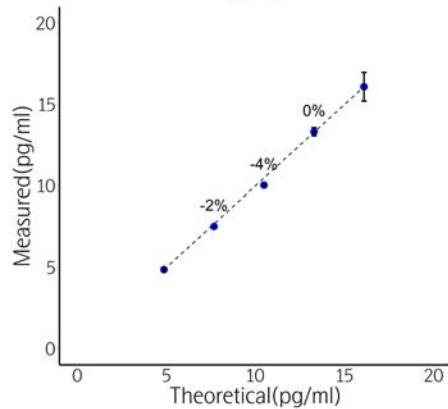
IL-7 Luminex

Values below LLOQ

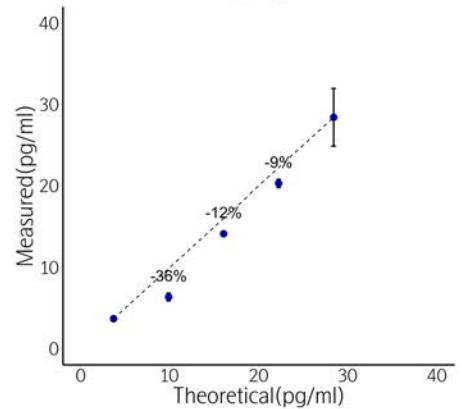
IL-8



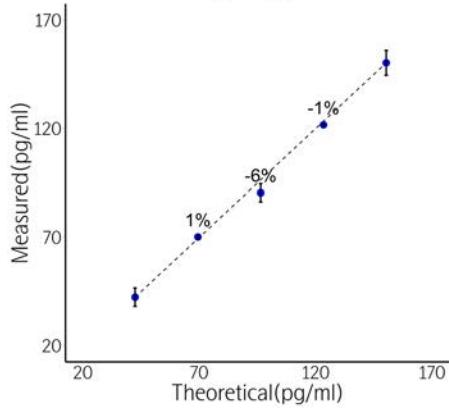
IL-8



IL-8



IP-10



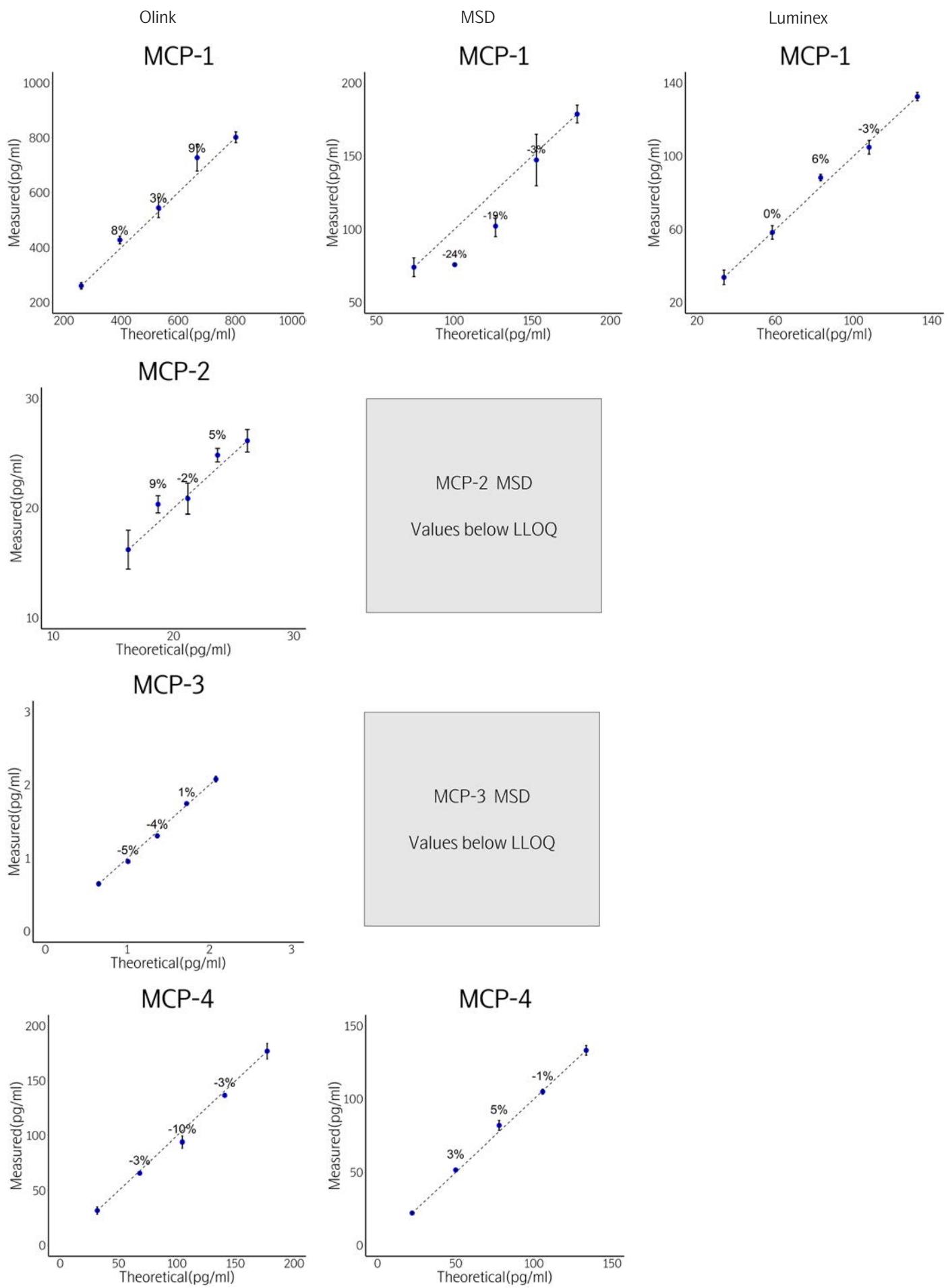
IP-10 MSD

Values above ULOQ

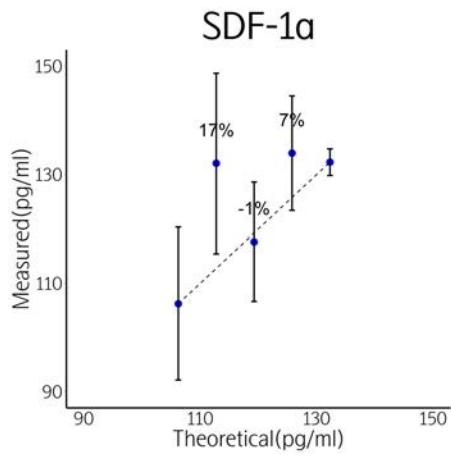
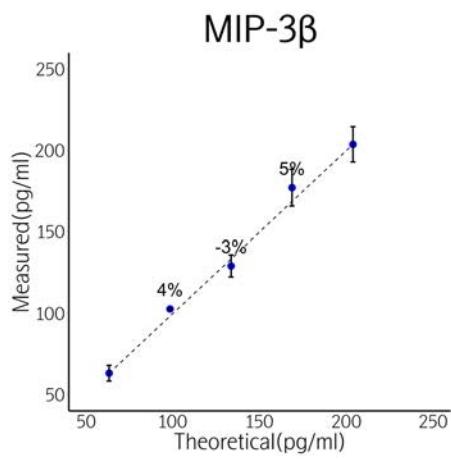
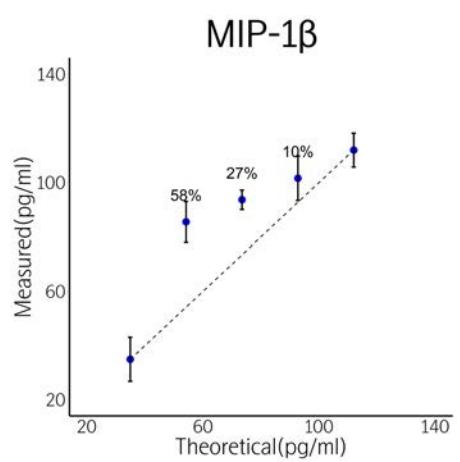
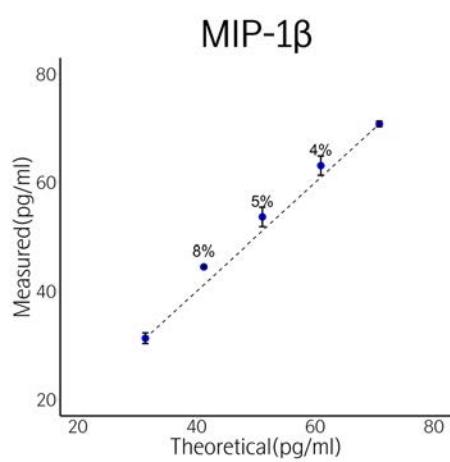
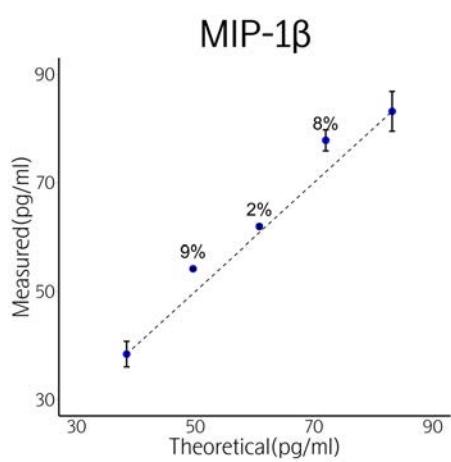
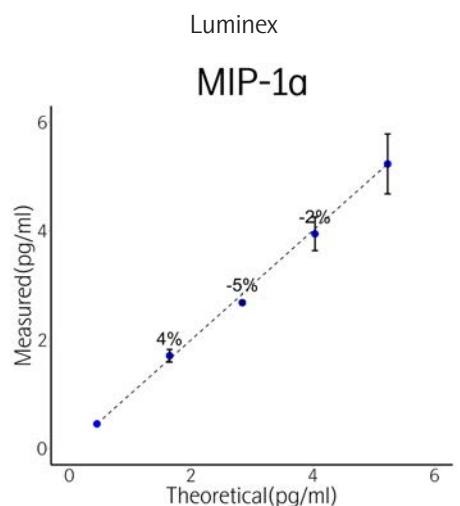
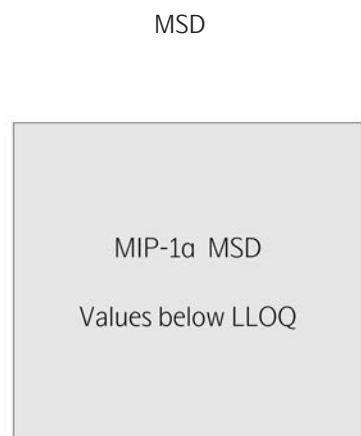
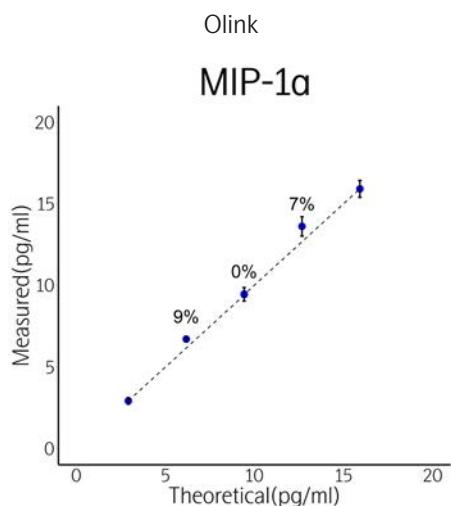
IP-10 Luminex

Values below LLOQ

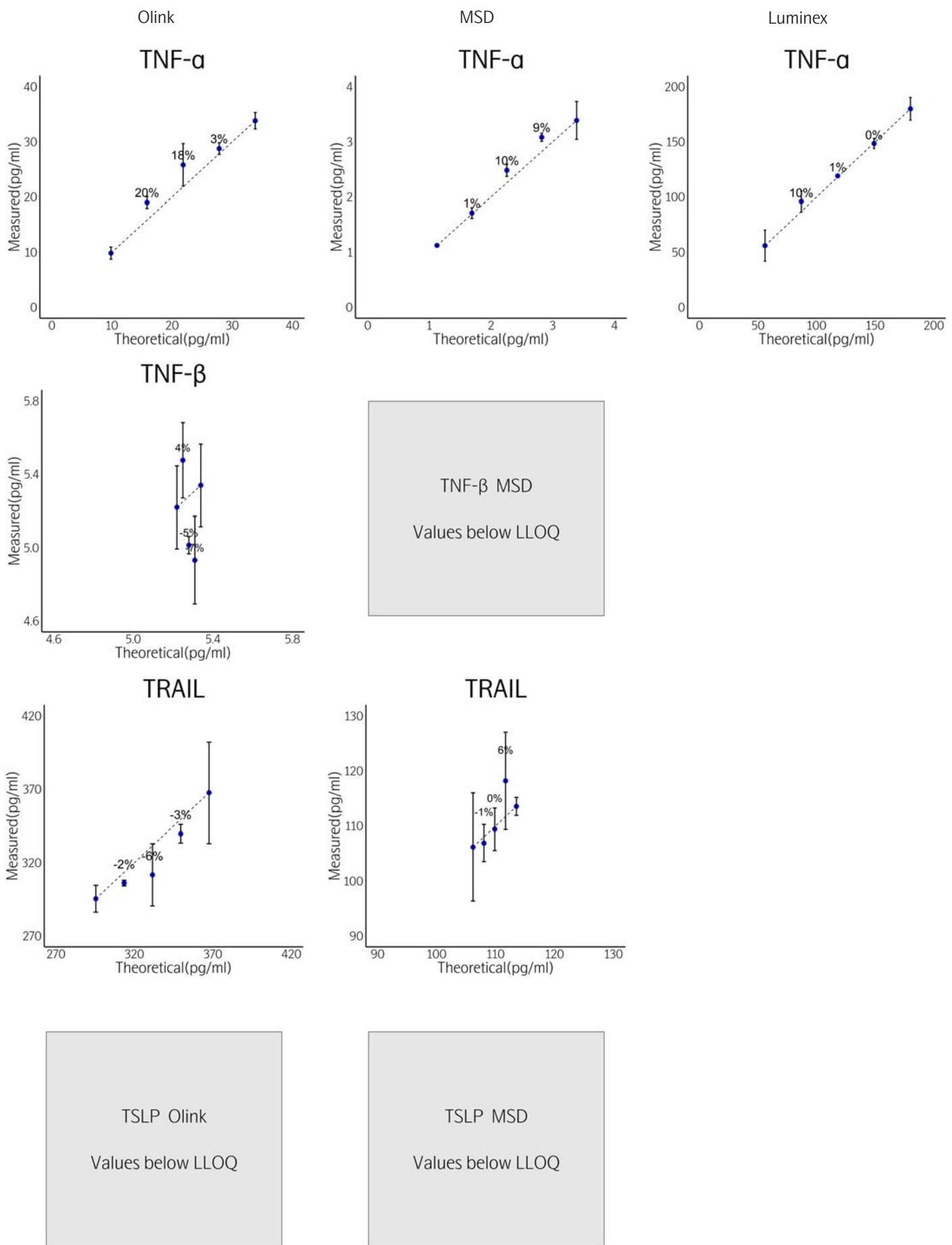
# Linearity



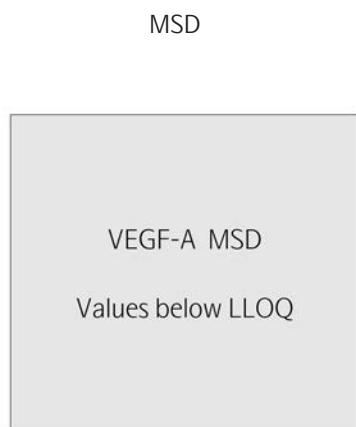
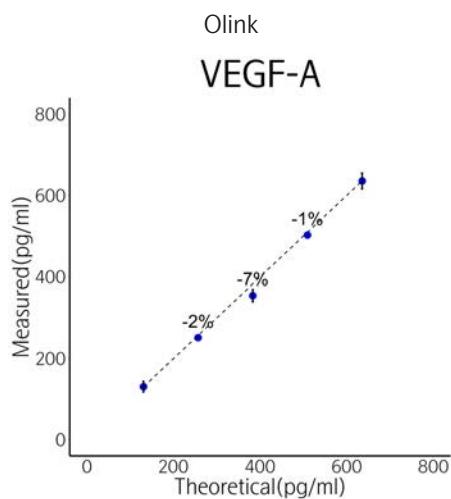
# Linearity



# Linearity



# Linearity



# Validation data

			Explore 1536					Target 48 Cytokine								
UniProt No	Common name	Protein name	Explore panel		Analytical measurement				Analytical measurement				Range difference			
					(pg/mL)	LOD	LLOQ	ULOQ	Hook	log10	(pg/mL)	LOD	LLOQ	ULOQ	Hook	log10 Target 48 - Explore 1536
O14625	I-TAC	C-X-C motif chemokine 11	NEUROLOGY		1.5	6.1	6250	12500		3	0.119	0.12	1953	7812	4.2	1.2
O43508	TWEAK	Tumor necrosis factor ligand superfamily member 12	INFLAMMATION		12.2	24.4	100000	400000		3.6	0.954	3.81	15625	62500	3.6	0
O95760	IL-33	Interleukin-33	INFLAMMATION		6.1	24.4	6250	25000		2.4	0.119	0.24	7812	31250	4.5	2.1
P01133	EGF	Pro-epidermal growth factor	INFLAMMATION		0.1	0.2	781	1563		3.6	0.238	0.48	977	7812	3.3	-0.3
P01135	TGF- $\alpha$	Protransforming growth factor alpha [Cleaved into: Transforming growth factor alpha]	INFLAMMATION		0.2	0.4	1563	25000		3.6	0.238	0.48	1953	7812	3.6	0
P01374	TNF- $\beta$	Lymphotxin-alpha	INFLAMMATION		0.8	1.5	3125	12500		3.3	0.119	0.12	3906	7812	4.5	1.2
P01375	TNF- $\alpha$	Tumor necrosis factor	INFLAMMATION		1.5	3.1	6250	100000		3.3	1.907	3.81	15625	62500	3.6	0.3
P01584	IL-1 $\beta$	Interleukin-1 beta	INFLAMMATION		0.4	1.5	25000	100000		4.2	0.095	0.19	3125	25000	4.8	0.6
P02778	IP-10	C-X-C motif chemokine 10	INFLAMMATION		0.2	6.1	6250	25000		3	0.119	0.12	1953	7812	4.2	1.2
P03956	MMP-1	Interstitial collagenase	INFLAMMATION		0.8	1.5	3125	12500		3.3	0.238	0.95	7812	31250	3.9	0.6
P05112	IL-4	Interleukin-4	INFLAMMATION		0.8	1.5	6250	25000		3.6	0.015	0.06	3906	15625	4.8	1.2
P05231	IL-6	Interleukin-6	INFLAMMATION		0.2	0.4	3125	25000		3.9	0.03	0.06	3906	15625	4.8	0.9
P09603	M-CSF	Macrophage colony-stimulating factor 1	INFLAMMATION		0	0.2	3125	6250		4.2	0.06	0.12	3906	15625	4.5	0.3
P09919	G-CSF	Granulocyte colony-stimulating factor	INFLAMMATION		97.7	390.6	400000	800000		3	1.907	7.63	62500	250000	3.9	0.9
P10145	IL-8	Interleukin-8	INFLAMMATION		0.1	0.2	1563	6250		3.9	0.119	0.24	1953	7812	3.9	0
P10147	MIP-1 $\alpha$	C-C motif chemokine 3	INFLAMMATION		0.2	0.4	781	1563		3.3	0.03	0.03	1953	3906	4.8	1.5
P12322	IL-7	Interleukin-7	INFLAMMATION		1.5	3.1	6250	12500		3.3	0.119	0.24	1953	7812	3.9	0.6
P13236	MIP-1 $\beta$	C-C motif chemokine 4	INFLAMMATION		0.2	0.4	1563	200000		3.6	0.119	0.12	3906	3906	4.5	0.9
P13725	OSM	Oncostatin-M	INFLAMMATION		0.2	0.4	781	3125		3.3	0.03	0.12	1953	7812	4.2	0.9
P14210	HGF	Hepatocyte growth factor	INFLAMMATION		3.1	12.2	100000	200000		3.9	0.238	0.24	15625	31250	4.8	0.9
P15692	VEGF-A	Vascular endothelial growth factor A	INFLAMMATION		0.8	1.5	6250	12500		3.6	0.238	0.48	7812	31250	4.2	0.6
P22301	IL-10	Interleukin-10	INFLAMMATION		6.1	24.4	200000	800000		3.9	0.119	0.12	31250	125000	5.4	1.5
P35225	IL-13	Interleukin-13	INFLAMMATION		1.5	6.1	100000	800000		4.2	0.238	0.48	15625	500000	4.5	0.3
P39900	MMP-12	Macrophage metalloelastase	ONCOLOGY		3.1	6.1	12500	100000		3.3	1.907	7.63	15625	62500	3.3	0
P40933	IL-15	Interleukin-15	INFLAMMATION		1.5	3.1	50000	400000		4.2	0.119	0.12	15625	125000	5.1	0.9
P48061	SDF-1 $\alpha$	Stromal cell-derived factor 1	INFLAMMATION		NA	NA	NA	NA		NA	30.518	30.52	31250	125000	3	NA
P49771	FLT3LG	Fms-related tyrosine kinase 3 ligand	INFLAMMATION		0.4	0.8	1563	12500		3.3	0.238	0.95	3906	7812	3.6	0.3
P50591	TRAIL	Tumor necrosis factor ligand superfamily member 10	INFLAMMATION		24.4	97.7	25000	50000		2.4	0.477	0.95	7812	31250	3.9	1.5
P51671	Eotaxin	Eotaxin	INFLAMMATION		1.5	3.1	25000	200000		3.9	0.119	0.24	15625	62500	4.8	0.9
P60568	IL-2	Interleukin-2	INFLAMMATION		0.4	0.8	6250	25000		3.9	0.015	0.12	3906	15625	4.5	0.6
P78380	LOX-1	Oxidized low-density lipoprotein receptor 1	CARDIOMETABOLIC		3.1	3.1	3125	12500		3	0.238	0.95	3906	7812	3.6	0.6
P80075	MCP-2	C-C motif chemokine 8	ONCOLOGY		0.8	1.5	1563	6250		3	0.03	0.03	1953	7812	4.8	1.8
P80098	MCP-3	C-C motif chemokine 7	INFLAMMATION		0.4	0.8	781	25000		3	0.03	0.12	1953	7812	4.2	1.2
Q07325	MIG	C-X-C motif chemokine 9	INFLAMMATION		0	0.1	6250	12500		4.8	0.119	0.12	3906	7812	4.5	-0.3
Q14116	IL-18	Interleukin-18	INFLAMMATION		0.1	0.2	6250	12500		4.5	0.477	0.95	15625	31250	4.2	-0.3
Q16552	IL-17A	Interleukin-17A	INFLAMMATION		6.1	12.2	50000	100000		3.6	0.119	0.12	15625	31250	5.1	1.5
Q969D9	TSLP	Thymic stromal lymphopoietin	CARDIOMETABOLIC		6.1	48.8	12500	200000		2.4	0.119	0.48	7812	125000	4.2	1.8
Q96PD4	IL-17F	Interleukin-17F	INFLAMMATION		1.5	6.1	6250	25000		3	0.238	0.24	3906	15625	4.2	1.2
Q99616	MCP-4	C-C motif chemokine 13	INFLAMMATION		0.8	6.1	3125	6250		2.7	0.03	0.06	1953	3906	4.5	1.8
Q99731	MIP-3 $\beta$	C-C motif chemokine 19	NEUROLOGY		NA	NA	NA	NA		0.06	0.12	1953	3906	4.2		
Q9P0M4	IL-17C	Interleukin-17C	INFLAMMATION		12.2	24.4	50000	100000		3.3	0.238	1.91	15625	62500	3.9	0.6
P04141	GM-CSF	Granulocyte-macrophage colony-stimulating factor	NA*		NA*	NA*	NA*	NA*		NA*	0.06	0.24	7812	15625	4.5	
P01579	IFN- $\gamma$	Interferon gamma	INFLAMMATION		1.5	6.1	12500	50000		3.3	0.015	0.03	3906	15625	5.1	1.8
Q14213, Q8NEv9	IL-27	Interleukin-27	ONCOLOGY		97.7	390.6	400000	800000		3	0.06	0.24	31250	125000	5.1	2.1
P13500	MCP-1	C-C motif chemokine 2	NEUROLOGY		6.1	12.2	1563	6250		2.1	0.119	0.24	3906	7812	4.2	2.1

\* GM-CSF is only available in the Target 48 Cytokine panel.

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