

Quanterix™
The Science of Precision Health

Quanterix SP-X™ Imaging and Analysis System

SP-X 高灵敏度多重免疫分析仪
Simoa-sensitive™ multiplex biomarker



SENSITIVITY MEANS KNOWING

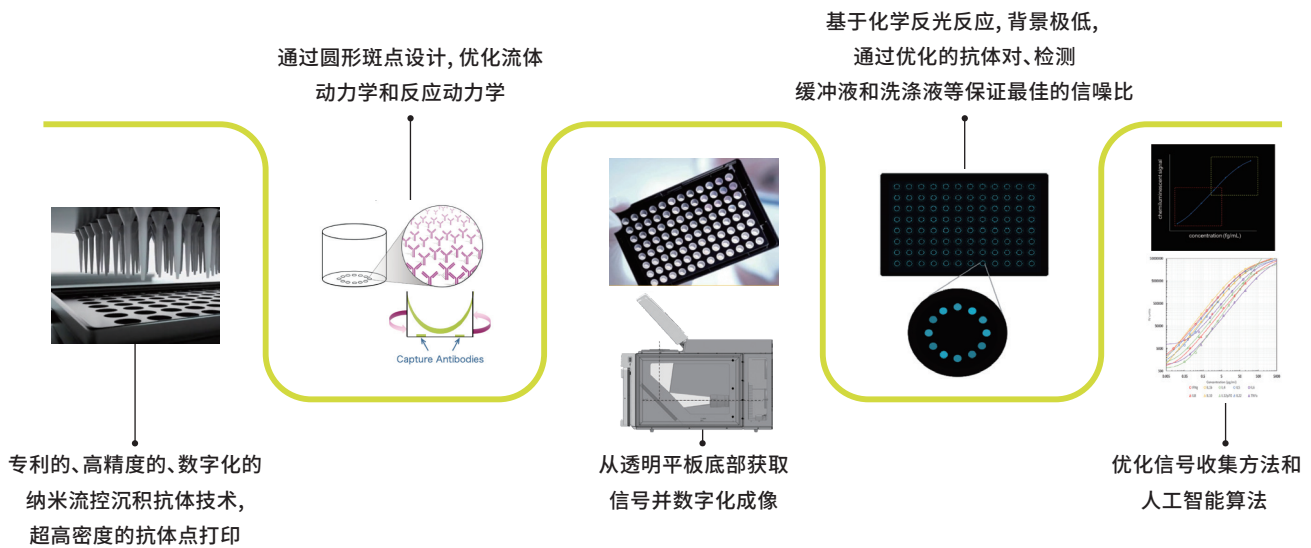
数字 ELISA 开创者

Simoa[®] Planar Array平面阵列技术

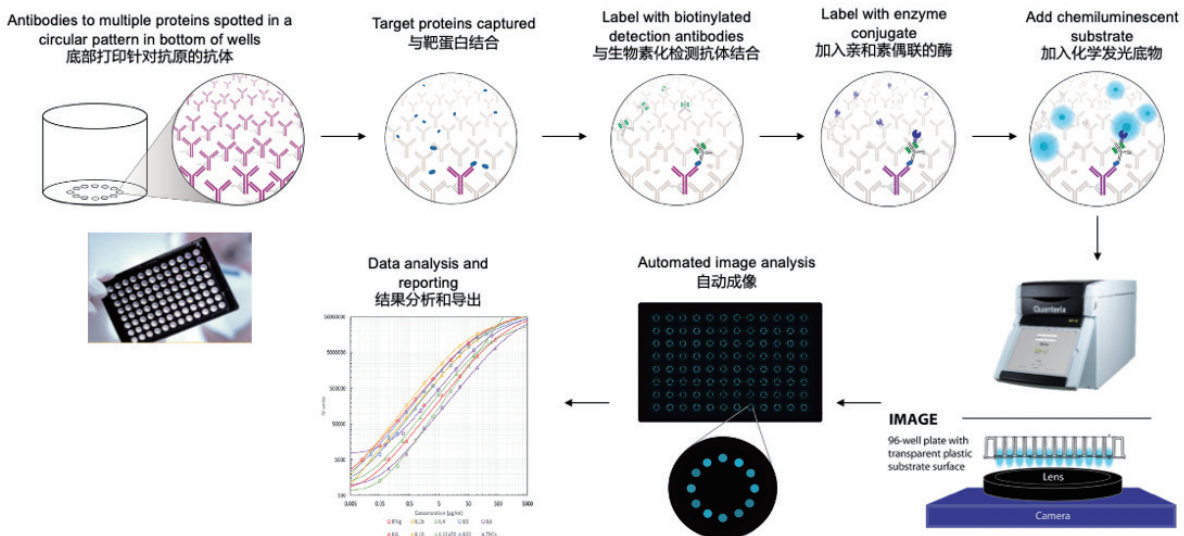
Simoa[®] Planar Array 技术是 Quanterix 公司在 2018 年收购 Aushon BioSystems 后重新研发设计的具有自主专利的高灵敏度多重免疫分析技术。通过 Simoa[®] Planar 技术，灵敏度可达到飞克级 (fg/ml)，并同时测量多达 10 种的生物标志物，是灵敏度和多重免疫检测的完美结合。

Simoa[®] Planar 技术通过其简单、灵活、强大和超灵敏的技术特点，专注于解决当今肿瘤，肿瘤免疫，感染，炎症，药物研发和临床研究中许多未满足的需求，在疾病进展的早期阶段，甚至在健康的基线水平，进行强大的多重生物标志物检测，药物代谢和药效检测，助力精准医疗研究。

Simoa[®] Planar Array平面阵列技术原理—如何实现超高灵敏度检测

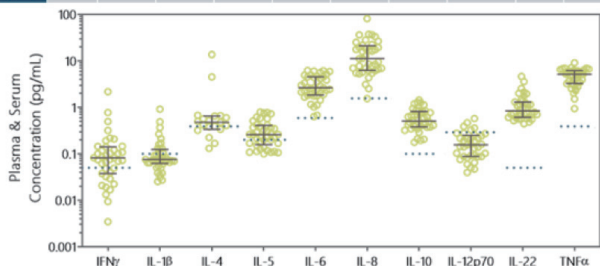


Simoa[®] Planar Array工作流程



SP-X Coreplex Cytokine Panel1 10因子检测试剂盒

	IFN γ	IL-1 β	IL-4	IL-5	IL-6	IL-8	IL-10	IL-12p70	IL-22	TNF α
ULOQ (pg/mL)	200	400	800	800	1200	1600	400	1200	400	1600
LLOQ (pg/mL)	0.05	0.10	0.39	0.20	0.59	1.56	0.10	0.29	0.10	0.39
LOD (pg/mL)	0.007	0.011	0.046	0.013	0.037	0.115	0.012	0.028	0.010	0.063



健康人血清 10 因子基线检测数据

Quanterix
The Science of Precision Health

Simoa™ CorPlex™ Human Cytokine Panel 1
Validation Report for SP-X Item # 85-0329

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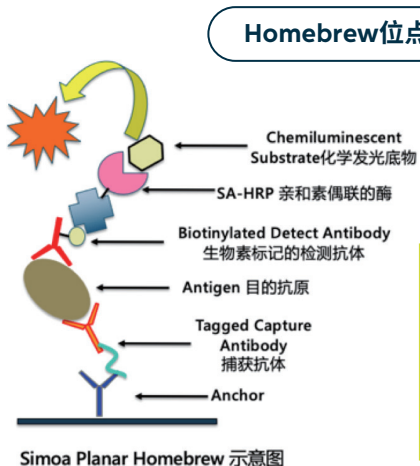
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试剂盒完整的验证报告

Simoa® Planar Homebrew 技术

在日常科学研究中, 研究者们经常需要检测一些新型的生物标志物, 但是这些标志物非常新颖以至于没有商品化的产品以满足检测需求。

利用 SP-X 的 Homebrew 试剂盒, 只需简单的实验步骤, 研究者就可以开发出新的生物标志物检测方法。



Simoa Planar Homebrew 示意图

Homebrew 平板



Simoa® Planar Homebrew 工作流程

特异肽段



生物素化检测抗体



筛选检测

Simoa® Planar Homebrew 启动套装 (Cat#: 100-0461) 包含

- 3 plates with anchor spot
- Capture Tag
- Biotin
- Antibody controls
- Reagents and Buffers for Conjugations and Assays

SP-X 仪器特点

SP-X 高灵敏度多重免疫分析仪采用最新一代 Simoa® 平面阵列技术，在疾病进展的最早阶段，甚至在健康的基线水平，进行强大的多重生物标志物检测。

SP-X 成像和分析系统是一个完整的台式系统，可在急性和基线水平上进行超高灵敏的多重检测。通过 SP-X 平台卓越的检测灵敏度，高达 10 重的多重检测能力，优异的数据精准性和重复性，宽广的动态范围，开放的研究平台以及高通量的检测能力都将助力精准医学研究，并最终加速药物审批。

SP-X 仪器特点



新一代 Simoa® 平面阵列技术，灵敏度高

将 Simoa 的超高灵敏度检测与多重检测有机结合并优化，比传统 ELISA 灵敏度高 1000 倍，并实现多重生物标志物检测。



多重检测：可同时完成多达 10 种不同目标分子的检测



平台开放：提供多种商品化试剂盒，支持定制化服务，且用户可以利用 homebrew 试剂盒自行开发



卓越的光学技术

搭配航天级别的高分辨率相机和定制镜头，可实现最佳的光线收集；每块板的成像时间 <2.5 分钟。



专业的人工智能分析软件

通过专有的采集算法和机器学习优化图像分析，使动态范围和信噪比最大化。



占地面积小，使用便利

只需要 11 英寸 (28 厘米) 的空间；拿出即用，无日常维护。

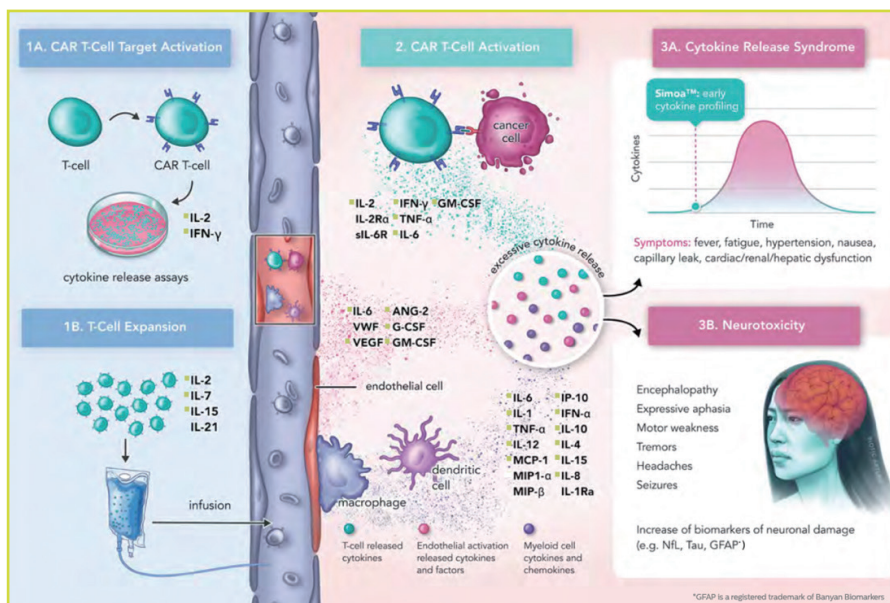
SP-X CAR-T应用和Development试剂盒目录

免疫细胞治疗和 CAR-T 细胞疗法的使用已经彻底改变了癌症治疗，例如血液学恶性肿瘤的缓解率很高。不幸的是，细胞因子释放综合征和神经毒性分别发生在高达 90% 和 60% 的患者身上，根据严重程度等级，可能会造成威胁生命的毒性。

SP-X 助力早期细胞因子分析

细胞因子和趋化因子的升高与输液后 CAR-T 细胞的有效激活和扩张有关。另一方面，过度的 T 细胞激活也可能与细胞因子释放综合征和神经毒性有关。

监测和预测高效免疫激活和免疫毒性之间的微妙平衡需要准确的生物标志物测量方法。超灵敏 Simoa Planar 技术能够对细胞因子进行健康的基线量化，从而识别相关炎症和细胞因子谱的早期升高。



- **Complex™ Human Cytokine Panel 1**
(IFN-γ, IL-1β, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12p7, IL-22, TNFα)

- **Human Angiogenesis Panel 1**
(ANG-2, FGFb, HB-EGF, HGF, PLGF, VEGF, VEGF-C)

The SP-X and Planar Array Assays

Ultra-sensitive cytokine profiling for broad monitoring of CAR-T cell activation and risk of cytokine release syndrome

- **Human Chemokine Panel 1** (IP-10, ITAC, MCP-1, MIP-3B)
- **Homebrew** for in-house custom assay development



SP-X Development试剂盒目录

Human	Human	Human	Human	Human	Rat	Mouse	Porcine
Alpha2-macroglobulin	FasL	IL-7	MMP-9	MDC (Macrophage Derived Chemokine)	MCP-1	IL-10	IFNα
Ang-1	Fibrinogen	KGF	Ang-2	MIP-4 (PARC)	MIP-1α	IL-1β	IL-1β
AR (Amphiregulin)	G-CSF	M-CSF	FGFb	MMP-2	MIP-2	IL-2	IL-2
BCA-1 (CXCL13)	gp130	MIG	HB-EGF	OPG (Osteoprotegerin)	MIP-3α	KC/GROα	IL-6
BMP-9	Granzyme B	MIP-1β	HGF	PD-1	IFNγ	IL-10	IL-8
C-Peptide	HGH	OPN (Osteopontin)	PDGFBB	PDGFAA		IL-17A	
CD14	I309 / CCL1	PD-L1	PLGF	PDGFAB		TNFα	
CRP	IgE	RAGE	VEGF	RANKL		ICAM-1	
EGF	IL-13	TGFβ1	VEGF-C	SAA (Serum Amyloid A)		IP-10	
Endoglin	IL-15	TGFβ2	RANTES	SCF (Kit ligand)		KC	
Eotaxin	IL-18	Tie-2	TIMP-1	SDF-1 (Stromal cell-derived factor 1)		MMP-9	
ER (Epregulin)	IL-1RA	TSP-2	IP-10	TGFα		VCAM-1	
	IL-1α	VEGF-D	ITAC	TIMP-2		VEGF	
	IL-2RG	VEGF-R1	MCP-1	TNF-RI			
	IL-3	VEGF-R2	MIP-3β				
	IL-6R	VEGF-R3	Insulin				

SP-X多重试剂盒目录

SIMOA CORPLEX PLANAR ARRAY ASSAYS-HUMAN

Assay	Analytes	LoD (pg/ml)	LoQ (pg/ml)	Dynamic Range (pg/ml)	Median Endogenous (pg/ml)	Sample Volume	Sample Type	Catalog Number
CorPlex Cytokine Panel 1 (10-Plex)	IFN- γ	0.011	0.195	0-200	0.77	12.5 μ L	E, S	85-0329
	IL-1 β	0.024	0.195	0-800	0.19			
	IL-4	0.014	0.098	0-400	0.08			
	IL-5	0.012	0.391	0-800	0.46			
	IL-6	0.038	0.445	0-456	5.18			
	IL-8	0.364	3.125	0-1,600	32.25			
	IL-10	0.032	0.195	0-800	2.11			
	IL-12p70	0.044	0.293	0-2,400	1.45			
	IL-22	0.01	0.156	0-400	1.66			
	TNF- α	0.055	1.563	0-1,600	0.93			
CorPlex IFN-γ	IFN- γ	0.011	0.195	0-200	0.77	12.5 μ L	E,S	85-0415
CorPlex IL-1β	IL-1 β	0.024	0.195	0-800	0.19	12.5 μ L	E,S	85-0348
CorPlex IL-4	IL-4	0.014	0.098	0-400	0.08	12.5 μ L	E,S	85-0416
CorPlex IL-5	IL-5	0.012	0.391	0-800	0.46	12.5 μ L	E,S	85-0406
CorPlex IL-6	IL-6	0.038	0.445	0-456	5.18	12.5 μ L	E,S	85-0341
CorPlex IL-8	IL-8	0.364	3.125	0-1,600	32.25	12.5 μ L	E,S	85-0417
CorPlex IL-10	IL-10	0.032	0.195	0-800	2.11	12.5 μ L	E,S	85-0418
CorPlex IL-12p70	IL-12p70	0.044	0.293	0-2,400	1.45	12.5 μ L	E,S	85-0419
CorPlex IL-22	IL-22	0.01	0.156	0-400	1.66	12.5 μ L	E,S	85-0420
CorPlex TNF-α	TNF- α	0.055	1.563	0-1,600	0.93	12.5 μ L	E,S	85-0409

SIMOA MULTIPLEX PLANAR ARRAY DEVELOPER ASSAYS-HUMAN

Assay	Analytes	LoD (pg/ml)	LoQ (pg/ml)	Dynamic Range (pg/ml)	Median Endogenous (pg/ml)	Sample Volume	Sample Type	Catalog Number
Chemokine Panel 1 (4-plex)	IP-10	0.19	0.58	0-300	108	25 μ L	E, S	88-5002
	ITAC	0.015	0.195	0-100	7.3			
	MCP-1	0.56	1.17	0-600	440.5			
	MIP-3b	0.005	0.78	0-400	66.3			
Angiogenesis Panel 1 (7-plex)	ANG-2	5.5	43.8	0-5,600	285	25 μ L	E, S	85-0004
	HBEGF	0.014	0.2	0-125	5.6			
	VEGF-C	23.3	52.1	0-16,000	253			
	PIGF	0.2	0.5	0-500	7.7			
	FGFb	0.9	2.6	0-2,000	ND			
	HGF	1	6.3	0-6,300	134			
Biomarker Panel 1 (2-plex)	RANTES / CCL5	0.09	7.81	0-800	3,617	25 μ L	E, S	85-0414
	TIMP-1	0.22	4.88	0-5,000	50,430			

SIMOA MULTIPLEX PLANAR ARRAY DEVELOPER ASSAYS-NON-HUMAN

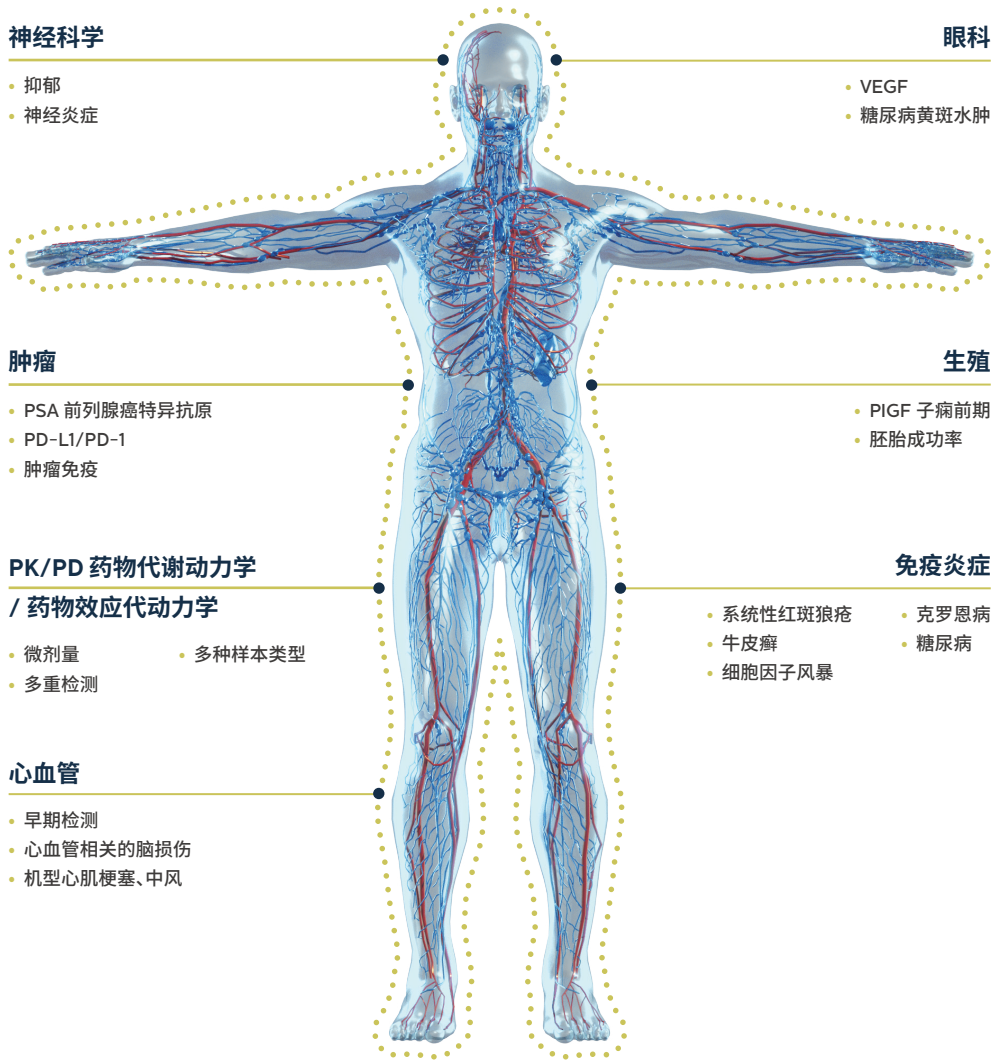
Species	Kit Name	Analytes	Catalog Number
Mouse	Mouse Cytokine Panel 1 (3-plex)	IL-10, IL-17, TNF- α	85-0450
Rat	Rat Cytokine Panel 1 (7-plex)	IFN- γ , IL-1 β , IL-2, IL-6, IL-10, KC, TNF- α	85-0015
Rat	Rat Chemokine Panel 1 (4-plex)	MCP-1, MIP-1 α , MIP-2, MIP-3 α	85-0016
Non-Human Primate	NHP Cytokine Panel 1 (4-plex)	IFN- γ , IL-1 β , IL-6, IL-8	85-0413

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Simoa® 生物标志物研究和应用进展

Simoa® 在神经科学, 肿瘤, 炎症反应, 感染免疫, 心血管疾病, 药效动力学和药代动力学等多个领域已经获得了大量成功的数据, 并发表了一些列重要的文献。Simoa® 平台卓越的检测灵敏度, 超高的自动化, 优异的数据精准性和重复性, 灵活的多重因子检测能力, 宽广的动态范围, 开放的研究平台以及高通量的检测能力都将助力您的创新研究。



Simoa® 平台中国检测服务 Custom Assay / Sample Testing Services

Quanterix 中国与全国多家科研服务机构和 CRO 合作, 提供基于 Simoa® 平台的超高灵敏度蛋白和核酸生物标志物检测, 以及定制化蛋白标志物开发服务。欢迎参观和预约服务。



若您有服务需求, 请扫码登记



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