

Simoa HD-1 Analyzer®

Ultra-sensitive Biomarker Assay Menu

Advantage Assays - Human

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume [†]	Sample Type ^{††}	Catalog Number
Aβ40	0.522	1.23	0-800	65.97	32.5 µL	C, E	101672
Aβ42	0.044	0.137	0-400	4.7	32.5 µL	C, E	101664
C-Peptide	0.013	0.021	0-400	1559	25 µL	E, S	100199
Eotaxin / CXCL11	0.1	0.18	0-960	75.6	13 µL	E, S	101212
G-CSF	0.095	0.095	0-400	7.12	25 µL	E, S	101235
GM-CSF	0.0019	0.0103	0-120	0.0865	33 µL	E, S	102329
IFNα	0.0025	0.0047	0-150	0.0036	73 µL	E, S	100860
IFNγ	0.0104	0.0764	0-400	0.333	32.5 µL	E, S	100200
IL-1β	0.016	0.083	0-240	0.058	100 µL	E, S	101605
IL-2	0.011	0.041	0-120	0.086	49.5 µL	E, S	101635
IL-4	0.0046	0.039	0-200	0.024	65 µL	E, S	100196
IL-5	0.004	0.0165	0-12	0.22	76 µL	E, S	102860
IL-6	0.0055	0.01	0-120	1.73	32.5 µL	E, S	101622
IL-8	0.056	0.0921	0-1,200	5.31	25 µL	E, S	100198
IL-10	0.0038	0.021	0-120	0.94	32.5 µL	E, S	101643
IL-12p70	0.0048	0.017	0-40	1.95	25 µL	E, S	100988
IL-13	0.002	0.005	0-30	0.039	65 µL	E, S	102732
IL-15	0.003	0.0062	0-40	3.23	25 µL	E, S	100794
IL-17A	0.0042	0.021	0-120	0.124	32.5 µL	E, S	101599
IP-10	0.052	0.177	0-800	105	25 µL	E, S	101132
MCP-1	N/A	0.153	0-800	85.3	25 µL	E, S	101154
NF-light®	0.038	0.174	0-2,000	5.33	46 µL	C, E, S	102258
HIV p24	0.0027	0.01	N/A	N/A	154 µL	E, S	102215
PSA	0.015	0.024	0-400	1.81	32.5 µL	E, S	101478
Tau	0.019	0.061	0-360	1.65	45.5 µL	C, E, S	101552
TNF-α	0.016	0.034	0-400	1.94	32.5 µL	E, S	101580
TRAIL	0.0083	0.0177	0-400	23.1	25 µL	E, S	100906
Troponin-I	0.013	0.079	0-1,200	0.646	49.5 µL	E, S	101588

[†]Smaller sample volumes possible with on board pre-dilutions | ^{††}C = CSF, E = EDTA plasma, S = serum

Multiplex Advantage Assays - Human

Assay	Analytes	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume ⁺	Sample Type ⁺⁺	Catalog Number
Cytokine 3-Plex A	TNF α	0.011	0.051	0-112	1.44	25 μ L	E, S	101160
	IL-6	0.006	0.011	0-60	1.71			
	IL-10	0.0022	0.0073	0-24	0.4			
Cytokine 3-Plex B	TNF α	0.021	0.026	0-112	2.48	25 μ L	E, S	101319
	IL-6	0.011	0.023	0-60	1.33			
	IL-17A	0.0047	0.0068	0-40	0.057			
Neurology 2-Plex A	A β 42	0.0249	0.171	0-800	8.1	18.4	C, E	101876
	Tau	0.02	0.067	0-400	2.75			
Neurology 3-Plex A	A β 40	0.196	0.675	0-800	209	46 μ L	C, E	101995
	A β 42	0.045	0.142	0-400	11.1			
	Tau	0.019	0.063	0-400	1.43			
Neurology 4-Plex A	GFAP	0.221	0.467	0-4000	89.7	46 μ L	C, E, S	102153
	NF-light	0.104	0.241	0-2000	10.6	4.6 μ L (CSF)		
	Tau	0.024	0.053	0-400	2.21			
	UCH-L1	1.74	5.45	0-40,000	12.21			

Simoa Advantage assay performance and precision specifications are determined according to Clinical Laboratory Standards Institute guidelines for consistency, sensitivity, precision, and robustness. Details are included in each kit's product insert and certificate of analysis. Kit includes calibrator concentrates, calibrator diluents, beads, detectors, SBG, RGP, and sample diluents. Validation testing includes:

- Dynamic range
- Calibration curve fitting
- Robustness and stability of calibrators, antibodies, and controls
- Specificity, spike recovery, and dilution linearity

- Sensitivity
- Intra-run, inter-plate, and inter-lot precision and accuracy
- Analysis of normal samples for the specified species to determine the normal range of biomarker concentration detected with the assay

Discovery Assays - Human

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume ⁺	Sample Type ⁺⁺	Catalog Number
α -Synuclein	0.955	4.12	0-10,000	4,145	19 μ L	C, E, S	102233
BDNF	0.011	0.034	0-64,000	11,306	33 μ L	C, E, S	102039
CA 19-9	0.023 U/mL	0.41 U/mL	0-240 U/mL	0.83 U/mL	106 μ L	E, S	102543
CA-125	0.003 U/mL	0.010 U/mL	0-200 U/mL	1.62 U/mL	13 65 μ L	E, S	102136
Cathepsin S	0.7	1.95	0-200	6,566	10 μ L	E, S	102064
CEA	0.486	2.33	0-85 ng/mL	1511.5	10 μ L	E, S	102556
c-MET	0.036	0.244	0-800	58,012	10 μ L	E, L, S	102073
CRP	0.048	0.686	0-48	19	10 μ L	E, S	102583
CXCL13	0.048	0.07	0-800	22.63	33 μ L	E, S	102635
GFAP*	0.211	0.686	0-4,000	88	46 μ L	C, E, S	102336
HE4 / WFDC2	0.135	0.977	0-4,000	104	55 μ L	E, S	103059
IL-1 α	0.004	0.01	0-60	0.0293	65 μ L	E, S	101968
IL-3	0.226	0.686	0-2000	0.279	46 μ L	E, S	102462
IL-12p40/IL-23	0.02	0.086	0-1,000	51.3	33 μ L	E, S	101871
IL-17C	0.065	0.206	0-1,200	1.66	33 μ L	E, S	102570
IL-17F	1.08	3.91	0-32,000	613	17 μ L	E	102082
IL-18	0.004	0.012	0-2250	200.1	10 μ L	C, E, S	102700
IL-22 (Total)	0.0054	0.0103	0-120	7.16	55 μ L	E, S	103071
IL-23	0.132	0.686	0-2,000	0.31	90 μ L	E, S	102184
IL-28A	0.022	0.069	0-200	0.303	65 μ L	E, S	101419
IL-33	0.32	0.686	0-2,000	5.45	65 μ L	E, S	103093
IL-36 β	0.01	0.206	0-600	0.426	33 μ L	E, S	101808

*Smaller sample volumes possible with on board pre-dilutions | **C = CSF, E = EDTA plasma, S = serum

Discovery Assays – Human (continued)

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume†	Sample Type††	Catalog Number
Leptin	2.46	4.94	0-60,000	6,083	2 µL	E, S	101855
LIF	0.015	0.086	0-520	0.412	33 µL	E, S	102394
MCP-3	0.124	0.309	0-450	0.445	75 µL	E, S	102382
MIP-1β	0.034	0.137	0-800	66.7	46 µL	E, S	102599
pNF-heavy	0.663	2.88	0-8,400	30.82	13 µL	C, E, S	102669
NSE	1.296	9.88	0-120	7,845	2 µL	C, E, S	102475
NT-proBNP	0.043	0.206	0-500	71	22 µL	E, S	102713
PD-1	0.247	0.879	0-7200	73	58 µL	E, S	102929
PD-L1	0.055	0.617	0-4,300	33.79	10 µL	E, S	102648
PlGF	0.064	0.3	0-960	3.82	38 µL	E, S	102318
TGFα	0.031	0.207	0-900	3.34	65 µL	E, S	101863
TGFβ	0.137	0.514	0-24,000	34,836	8.5 µL	E, S	101984
TNFβ	0.052	0.15	0-2,400	7.168	55 µL	E, S	102091
UCH-L1*	1.05	3.43	0-20,000	9.51	46 µL	C, E, S	102343
VEGF	0.041	0.137	0-800	3.49	33 µL	E, S	102794

Discovery Assays – Mouse

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume†	Sample Type††
IL-1α	0.0085	0.060	0-700	1.063	13 µL	E, S
IL-1β	0.004	0.021	0-120	0.201	33 µL	E, S
IL-6	0.035	0.120	0-700	16.0	33 µL	E, S
IL-17A	0.088	0.206	0-2,400	33.76	17 µL	E, S
IL-17A/F	0.022	0.069	0-800	11.58	33 µL	E, S
IL-17F	0.102	0.412	0-2,400	11.01	33 µL	E, S
IL-22	0.095	0.206	0-1,200	273.3	33 µL	E, S
IL-23	0.033	0.137	0-800	4.89	33 µL	E, S
TNF-α	0.132	1.230	0-7,200	22.6	33 µL	E, S
Tau	0.615	0.823	0-2,400	26.7	33 µL	C, E, S

*Smaller sample volumes possible with on board pre-dilutions | †C = CSF, E = EDTA plasma, S = serum

Simoa Discovery assay kits are provided as complete kits packaged with reagents for processing up to 192 samples. Includes calibrator concentrate, calibrator diluent, bead stock, bead diluent, detector stock, detector diluent, SBG concentrate, SBG diluent, RGP, and sample diluent. Representative performance is determined in biological matrices and includes:

Dynamic range
Calibration curve fitting
Robustness and stability of calibrators, antibodies, and controls
Specificity, spike recovery, and dilution linearity

Sensitivity
Intra-run and inter-plate precision and accuracy
Analysis of normal samples for the specified species to determine the normal range of biomarker concentration detected with the assay

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