

# Simoa® HD-1/HD-X Analyzer

## Ultrasensitive Biomarker Assay Menu

### Singleplex Advantage Assays - Human

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume†	Sample Type††	Catalog Number
<b>Aβ40</b>	0.522	1.23	0-800	65.97	32.5 µL	C, E	101672
<b>Aβ42</b>	0.044	0.137	0-400	4.7	32.5 µL	C, E	101664
<b>C-Peptide</b>	0.013	0.021	0-400	1559	32.5 µL	E, S	100199
<b>Eotaxin/CCL-11</b>	0.1	0.18	0-960	75.6	32.5 µL	E, S	101212
<b>G-CSF</b>	0.095	0.095	0-400	7.12	32.5 µL	E, S	101235
<b>GM-CSF</b>	0.0019	0.0103	0-120	0.0865	32.5 µL	E, S	102329
<b>IFNα</b>	0.0025	0.0047	0-150	0.0036	100 µL	S	100860
<b>IFNγ</b>	0.0155	0.098	0-100	0.522	65 µL	E, S	103337
<b>IL-1β</b>	0.016	0.083	0-240	0.058	100 µL	E, S	101605
<b>IL-2</b>	0.011	0.041	0-120	0.086	49.5 µL	E, S	101635
<b>IL-4</b>	0.0046	0.039	0-200	0.024	65 µL	E, S	100196
<b>IL-5</b>	0.004	0.0165	0-12	0.22	91 µL	E, S	102860
<b>IL-6</b>	0.0055	0.01	0-120	1.73	32.5 µL	E, S	101622
<b>IL-7</b>	0.009	0.103	0-600	28.0	32.5 µL	E, S	103277
<b>IL-8</b>	0.056	0.0921	0-1,200	5.31	32.5 µL	E, S	100198
<b>IL-10</b>	0.0038	0.021	0-120	0.94	32.5 µL	E, S	101643
<b>IL-12p70</b>	0.0048	0.017	0-40	1.95	32.5 µL	E, S	100988
<b>IL-13</b>	0.002	0.005	0-30	0.039	65 µL	E, S	102732
<b>IL-15</b>	0.003	0.0062	0-40	3.23	32.5 µL	E, S	100794
<b>IL-17A</b>	0.0042	0.021	0-120	0.124	32.5 µL	E, S	101599
<b>IP-10</b>	0.052	0.177	0-800	105	32.5 µL	E, S	101132
<b>MCP-1</b>	N/A	0.153	0-800	85.3	32.5 µL	E, S	101154
<b>NF-light™</b>	0.038	0.174	0-2,000	5.33	45.5 µL	C, E, S	102258
<b>HIV p24</b>	0.0027	0.01	N/A	N/A	154 µL	E, S	102215
<b>PSA</b>	0.015	0.024	0-400	1.81	32.5 µL	E, S	101478
<b>Tau</b>	0.019	0.061	0-360	1.65	45.5 µL	C, E, S	101552
<b>SARS-CoV-2 Spike IgG (HD-X Only)</b>	15.0	8,200	0-280,000,000	32,000 (pre-pand) 3,360,000 (PCR Pos)	5 µL	E, S	103769
<b>SARS-CoV-2 N Protein Antigen (HD-X Only)</b>	0.099	0.313	0-800	2,338 (PCR Pos)	32.5 µL	NP Swab	103806
<b>SNAP-25</b>	0.880	2.56	0-1,000	59.6	32.5 µL	C	103575
<b>pTau-181</b>	0.724	2.640	0-85	32.0	32.5 µL	C	103377
<b>pTau-181 V2</b>	0.028	0.085	0-412	0.856	32.5 µL	C, E, S	103714
<b>pTau-231</b>	0.621	1.83	0-1,200	20.8	45.5 µL	C	102292
<b>TDP-43</b>	2.48	8.23	0-8,000	130	32.5 µL	C, E, S	103293
<b>TNF-α</b>	0.016	0.034	0-400	1.94	32.5 µL	E, S	101580
<b>TRAIL</b>	0.0083	0.0177	0-400	23.1	32.5 µL	E, S	100906

† Volumes shown are for at bench dilutions. On-instrument dilutions require higher sample volumes | †† 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 <sup>†</sup>	Sample Type <sup>**</sup>	Catalog Number
<b>Neurology 2-Plex B</b>	GFAP	0.475	4.15	0-40,000	36.9	32.5 µL 5 µL (CSF)	C, E, S	103520
	Nf-L	0.065	0.20	0-2000	3.63			
<b>Neurology 3-Plex A</b>	Aβ40	0.196	0.675	0-800	209	45.5 µL 5 µL (CSF)	C, E	101995
	Aβ42	0.045	0.142	0-400	11.1			
	Tau	0.019	0.063	0-400	1.43			
<b>Neurology 4-Plex A</b>	GFAP	0.221	0.467	0-4,000	89.7	45.5 µL 5 µL (CSF)	C, E, S	102153
	Nf-L	0.104	0.241	0-2000	10.6			
	Tau	0.024	0.053	0-400	2.21			
	UCH-L1	1.74	5.45	0-40,000	12.21			
<b>Neurology 4-Plex B</b>	GFAP	1.18	9.38	0-40,000	50.0	32.5 µL 5 µL (CSF)	C, E, S	103345
	Nf-L	0.096	0.500	0-2,000	5.91			
	Tau	0.037	0.125	0-400	0.95			
	UCH-L1	2.43	9.38	0-40,000	6.81			
<b>Neurology 4-Plex E</b>	Aβ40	0.384	1.02	0-280	89.4	32.5 µL 5 µL (CSF)	C, E	103670
	Aβ42	0.136	0.378	0-100	5.69			
	GFAP	0.441	2.89	0-20,000	52.2			
	Nf-L	0.090	0.400	0-2,000	10.0			

<sup>†</sup> Volumes shown are for at bench dilutions. On-instrument dilutions require higher sample volumes | <sup>\*\*</sup> 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
- Sensitivity
- Calibration curve fitting
- Intra-run, inter-plate, and inter-lot precision and accuracy
- Robustness and stability of calibrators, antibodies, and controls
- Analysis of normal samples for the specified species to determine the normal range of biomarker concentration detected with the assay
- Specificity, spike recovery, and dilution linearity

## Discovery Assays – Human

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume <sup>†</sup>	Sample Type <sup>††</sup>	Catalog Number
<b>α-Synuclein</b>	0.955	4.12	0-10,000	4,145	18.2 µL	C, E, S	102233
<b>BDNF</b>	0.011	0.034	0-64,000	11,306	5 µL	C, E, S	102039
<b>CA-125</b>	0.003 U/mL	0.010 U/mL	0-200 U/mL	1.62 U/mL	13 µL	E, S	102136
<b>Cathepsin S</b>	0.7	1.95	0-200	6,566	5 µL	E, S	102064
<b>CEA</b>	0.486	2.33	0-85 ng/mL	1511.5	5 µL	E, S	102556
<b>c-MET</b>	0.036	0.244	0-800	58,012	5 µL	E, L, S	102073
<b>CRP</b>	0.048	0.686	0-48	19	5 µL	E, S	102583
<b>CXCL13</b>	0.048	0.07	0-800	22.63	32.5 µL	E, S	102635
<b>GFAP</b>	0.211	0.686	0-4,000	88	45.5 µL	C, E, S	102336
<b>HE4 / WFDC2</b>	0.135	0.977	0-4,000	104	32.5 µL	E, S	103059
<b>IL-1α</b>	0.004	0.01	0-60	0.0293	65 µL	E, S	101968
<b>IL-3</b>	0.226	0.686	0-2000	0.279	45.5 µL	E, S	102462
<b>IL-17C</b>	0.065	0.206	0-1,200	1.66	32.5 µL	E, S	102570
<b>IL-18</b>	0.004	0.012	0-2250	200.1	5 µL	C, E, S	102700
<b>IL-22 (Total)</b>	0.0054	0.0103	0-120	7.16	32.5 µL	E, S	103071
<b>IL-28A</b>	0.022	0.069	0-200	0.303	65 µL	E, S	101419
<b>IL-36β</b>	0.01	0.206	0-600	0.426	32.5 µL	E, S	101808
<b>Leptin</b>	2.46	4.94	0-60,000	6,083	5 µL	E, S	101855
<b>LIF</b>	0.015	0.086	0-520	0.412	32.5 µL	E, S	102394
<b>MCP-3</b>	0.124	0.309	0-450	0.445	75 µL	E, S	102382
<b>MMP-9</b>	0.581	4.88	0-5,000 ng/ml	555	5 µL	C, E, S	102491
<b>pNF-heavy</b>	0.663	2.88	0-8,400	30.82	32.5 µL	C, E, S	102669
<b>NSE</b>	1.296	9.88	0-120	7,845	5 µL	C, E, S	102475
<b>PD-1</b>	0.247	0.879	0-7200	73	32.5 µL	E, S	102929
<b>PD-L1</b>	0.055	0.617	0-4,300	33.79	6.5 µL	E, S	102648
<b>PIGF</b>	0.064	0.3	0-960	3.82	37.5 µL	E, S	102318
<b>TGFα</b>	0.031	0.207	0-900	3.34	65 µL	E, S	101863
<b>TGFβ</b>	0.137	0.514	0-24,000	34,836	8.5 µL	E, S	101984
<b>UCH-L1</b>	1.05	3.43	0-20,000	9.51	45.5 µL	C, E, S	102343
<b>VEGF</b>	0.041	0.137	0-800	3.49	32.5 µL	E, S	102794

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## Discovery Assays – Mouse

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume <sup>†</sup>	Sample Type <sup>††</sup>	Catalog Number
<b>IL-1<math>\alpha</math></b>	0.0085	0.060	0-700	1.063	13 $\mu$ L	E, S	102504
<b>IL-1<math>\beta</math></b>	0.004	0.021	0-120	0.201	32.5 $\mu$ L	E, S	102517
<b>IL-6</b>	0.035	0.120	0-700	16.0	32.5 $\mu$ L	E, S	102109
<b>IL-17A</b>	0.088	0.206	0-2,400	33.76	17 $\mu$ L	E, S	101824
<b>IL-17F</b>	0.102	0.412	0-2,400	11.01	32.5 $\mu$ L	E, S	101839
<b>IL-22</b>	0.095	0.206	0-1,200	273.3	32.5 $\mu$ L	E, S	101919
<b>IL-23</b>	0.033	0.137	0-800	4.89	32.5 $\mu$ L	E, S	101847
<b>TNF-<math>\alpha</math></b>	0.132	1.230	0-7,200	22.6	32.5 $\mu$ L	E, S	102100
<b>Tau</b>	0.615	0.823	0-2,400	26.7	32.5 $\mu$ L	C, E, S	102209

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# Quanterix SR-X™ Ultrasensitive Biomarker Assay Menu

## Singleplex Advantage Assays

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume	Sample Type <sup>†</sup>	Catalog Number
<b>Aβ40</b>	0.170	1.24	0-800	177	25 µL	C, E	101672
<b>Aβ42</b>	0.035	0.137	0-400	10.2	25 µL	C, E	101664
<b>C-Peptide</b>	0.008	0.027	0-400	1.53 (Type I Diabetes)	25 µL	C, E	100199
<b>HIV p24</b>	0.004	0.016	0-30	N/A	125 µL	E, S	102215
<b>IFN-γ</b>	0.014	0.049	0-800	0.33	65 µL	E, S	103337
<b>IL-5</b>	0.0034	0.0165	0 - 12	0.210	76 µL	E, S	102860
<b>IL-6</b>	0.006	0.010	0-120	1.27	25 µL	E, S	101622
<b>IL-8</b>	0.038	0.146	0-300	4.27	25 µL	E, S	100198
<b>IL-10</b>	0.005	0.041	0-120	1.29	25 µL	E, S	101643
<b>IL-13</b>	0.001	0.007	0-30	0.069	50 µL	E, S	102732
<b>IL-15</b>	0.002	0.007	0-40	3.23	25 µL	E, S	100794
<b>IL-17A</b>	0.011	0.011	0-120	0.073	25 µL	E, S	101599
<b>NF-light™ for SR-X</b>	0.072	0.343	0-1,800	7.34	25 µL	C, E, S	103400
<b>PSA</b>	0.006	0.028	0-400	1.81	25 µL	E, S	101478
<b>pTau-231</b>	0.284	1.23	0-1,200	47.5	25 µL	C	102292
<b>pTau-181</b>	0.756	1.20	0-85	33.1	25 µL	C	103377
<b>pTau-181 V2</b>	0.041	0.085	0-412	0.990	25 µL	C, E, S	103714
<b>SNAP-25</b>	1.06	3.20	1-1,000	63.9	25 µL	C	103575
<b>Tau</b>	0.014	0.049	0-400	2.65	38 µL	C, E, S	101552
<b>TDP43</b>	0.780	8.23	0-8,000	191	25 µL	C, E, S	103293
<b>TNF-α</b>	0.003	0.017	0-200	1.48	25 µL	E, S	101580

## Singleplex Discovery Assays

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume	Sample Type <sup>†</sup>	Catalog Number
<b>α-Synuclein</b>	0.440	4.12	0-10,000	3,976	15.2 µL	C, E, S	102233
<b>BDNF</b>	0.021	0.068	0-6,400	4,578	5 µL	C, E, S	102039
<b>GFAP</b>	0.26	1.37	0-4,000	68.4	38 µL	C, E, S	102336
<b>IL-22 (total)</b>	0.004	0.021	0-120	6.62	25 µL	E, S	103071
<b>MMP-9</b>	1.09	4.88	0-5,000 ng/ml	680	5 µL	C, P, S	102491
<b>Mouse IL-1β</b>	0.0081	0.0309	0-120	0.296	25 µL	E, S	102517
<b>Mouse IL-6</b>	0.072	0.240	0-700	38.34	25 µL	E, S	102869
<b>Mouse Tau</b>	0.428	0.82	0-2,400	19.6	25 µL	C, E, S	102209
<b>PD-L1</b>	0.048	0.052	0-4,300	40.1	5 µL	E, S	102648

<sup>†</sup>C = CSF, E = EDTA plasma, P=platelet poor heparin 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 <sup>†</sup>	Catalog Number
<b>Neurology 2-Plex B</b>	GFAP	0.410	4.15	0-40,000	43.2	25 µL	C, E, S	103520
	NF-light	0.071	0.40	0-2000	3.70	5 µL (CSF)		
<b>Neurology 3-Plex A</b>	Aβ40	0.196	0.675	0-800	209	25 µL 5 µL (CSF)	C, E	101995
	Aβ42	0.045	0.142	0-400	11.1			
	Tau	0.019	0.063	0-400	1.43			
<b>Neurology 4-Plex A</b>	GFAP	0.221	0.467	0-4,000	89.7	38 µL 5 µL (CSF)	C, E, S	102153
	NF-light	0.104	0.241	0-2000	10.6			
	Tau	0.024	0.053	0-400	2.21			
	UCH-L1	1.74	5.45	0-40,000	12.21			
<b>Neurology 4-Plex B</b>	GFAP	1.51	9.38	0-40,000	50.0	25 µL 5 µL (CSF)	C, E, S	103345
	NF-light	0.105	0.500	0-2,000	5.91			
	Tau	0.041	0.125	0-400	0.95			
	UCH-L1	1.90	9.38	0-40,000	6.81			

<sup>†</sup>C = CSF, E = EDTA plasma, S = serum

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
- Sensitivity
- Calibration curve fitting
- Intra-run, inter-plate, and inter-lot precision and accuracy
- Robustness and stability of calibrators, antibodies, and controls
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- Specificity, spike recovery, and dilution linearity

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- Sensitivity
- Calibration curve fitting
- Intra-run, inter-plate, and inter-lot precision and accuracy
- Robustness and stability of calibrators, antibodies, and controls
- Analysis of normal samples for the specified species to determine the normal range of biomarker concentration detected with the assay
- Specificity, spike recovery, and dilution linearity