

### INTENDED USE & DESCRIPTION

For use as quantitative controls for the determination of human cytokine concentrations in biological fluids. Concentrations have been assigned using R&D Systems® Luminex® Performance Assays. Controls are prepared in a buffered protein base with preservatives. They contain recombinant human cytokines at low, medium and high concentrations. Controls are supplied lyophilized.

### STORAGE & STABILITY

Unreconstituted controls should be stored at 2-8 °C and are stable for at least 6 months from date of receipt. Depending on the analyte of interest, reconstituted controls may be stable when stored at ≤ -20 °C. Users should evaluate the frozen stability of the controls in their application or discard after use.

### REAGENT PREPARATION

Reconstitute each vial with 1.5 mL of Calibrator Diluent RD5K (diluted 1:2) for cell culture supernate samples or RD6-40 for serum/plasma samples.

### PROCEDURE & EXPECTED VALUES

Controls should be used undiluted and assayed as unknown specimens.

The acceptable target values for the analytes in these controls are printed below. Due to possible variations in techniques and methodologies, it is recommended that each laboratory determine its own target range.

#### CELL CULTURE SUPERNATE ASSAY

Analyte	Catalog #		Lot # 1161348 (pg/mL)	Lot # 1161349 (pg/mL)	Lot # 1161350 (pg/mL)
	LUH000	LUHM000			
ENA-78	LUH254	LUHM254	115	878	2873
FGF basic	LUH233	LUHM233	56.6	878	3553
G-CSF	LUH214	LUHM214	87.7	570	1547
GM-CSF	LUH215C	LUHM215	37.9	358	1354
IFN-γ	LUH285	LUHM285	62.7	468	1675
IL-1α	LUH200B	LUHM200	59.4	592	1955
IL-1β	LUH201	LUHM201	15.5	190	596
IL-1ra	LUH280	LUHM280	128	1093	2968
IL-2	LUH202	LUHM202	35.3	329	1072
IL-4	LUH204	LUHM204	32.3	280	1131
IL-5	LUH205	LUHM205	19.6	188	655
IL-6	LUH206	LUHM206	113	820	2777
IL-8	LUH208	LUHM208	72.1	633	2192
IL-10	LUH217	LUHM217	21.4	204	795
IL-17	LUH317	LUHM317	43.0	355	1396
MCP-1	LUH279	LUHM279	33.1	315	1241
MIP-1α	LUH270	LUHM270	170	1782	5517
MIP-1β	LUH271	LUHM271	120	936	3669
RANTES	LUH278	LUHM278	122	966	2829
TNF-α	LUH210	LUHM210	66	663	2456
Tpo	LUH288	LUHM288	629	3751	13,105
VEGF	LUH293	LUHM293	33.9	321	1179

#### SERUM/PLASMA ASSAY

Analyte	Lot # 1161348 (pg/mL)	Lot # 1161349 (pg/mL)	Lot # 1161350 (pg/mL)
ENA-78	98.7	922	3005
FGF basic	45.5	541	2517
G-CSF	64.7	516	1488
GM-CSF	33.7	346	1268
IFN-γ	33.1	297	1046
IL-1α	58.6	582	1926
IL-1β	15.0	185	570
IL-1ra	126	1093	2995
IL-2	26.2	265	907
IL-4	31.7	302	1117
IL-5	19.6	190	676
IL-6	98.0	761	2694
IL-8	67.4	607	2067
IL-10	17.5	183	757
IL-17	36.2	331	1244
MCP-1	31.5	309	1226
MIP-1α	168	1716	6283
MIP-1β	115	1087	4241
RANTES	111	919	2662
TNF-α	62.8	669	2789
Tpo	528	3770	13,845
VEGF	29.1	280	1015

### TECHNICAL HINTS & LIMITATIONS OF THE PROCEDURE

- The ranges were determined using R&D Systems® Luminex® Performance Assays. If expected values are not obtained, verify that the lot numbers on the vials correspond with the lot numbers listed above and the correct volume of appropriate calibrator diluent was used for reconstitution of the controls.
- The results obtained with these controls depend upon several factors associated with methods and instrumentation. Test systems other than those supplied by R&D Systems® may result in values that differ from those printed on this product datasheet.