

Metabolism
 Cancer
 Cardiovascular Disease
 Cytokines, Chemokines,
 Growth Factors
 Neurology
 Diabetes
 Infectious Disease
 Inflammation
 Signal Transduction
 Sepsis

Bio-Plex Pro™ Human Apolipoprotein 10-Plex Assay

MAGNETIC SEPARATION ENABLED

Apolipoprotein A1 / Apolipoprotein A2 / Apolipoprotein B / Apolipoprotein C1 / Apolipoprotein C3
 Apolipoprotein D / Apolipoprotein E / Apolipoprotein H / Apolipoprotein J / C-Reactive Protein

- All-in-one premixed kit
- Optimized for lot-to-lot reproducibility
- Two-level quality controls
- Magnetic workflow



High-Performance Multiplex Immunoassays for Research

The Bio-Plex Pro Human Apolipoprotein Assay Panel is a sensitive, magnetic bead-based multiplex assay that allows you to accurately measure nine apolipoproteins and C-reactive protein (CRP) in diverse matrices, including serum and plasma. Multiplex capabilities allow you to rapidly quantitate multiple apolipoproteins in a single microplate well in just 4 hours, using only 10 µl of sample.

Validated to rigorous analytical standards and designed for lot-to-lot consistency, this panel is ideal for investigating biomarker profiles associated with the following research areas:

- Cardiovascular disease
- Inflammation
- Diabetes
- Neurological disease
- Sepsis
- Cancer

Assay Features

This panel is offered in a convenient, all-in-one, 10-plex kit format that includes magnetic capture beads, detection antibodies, vial of standards, two-level controls, diluents, buffers, streptavidin-PE, flat bottom plate, and plate seals for the detection of nine human apolipoproteins and CRP (Table 1).

- Manufactured in accordance with GMP guidelines
- Lot-to-lot correlation specification of $R^2 \geq 0.9$ for consistent, reproducible results
- Full multiplex validation documentation for each kit lot
- Two-level quality controls with lot-specific ranges
- Assay quick guide to get you started right away
- Fastest available assay protocols and a convenient all-in-one kit format
- Compatible with the Bio-Plex® 200, Bio-Plex 3D Suspension Array Systems, and the Bio-Plex® MAGPIX™ Multiplex Reader
- Magnetic beads for simplified plate processing

Table 1. Analytes detected by the Human Apolipoprotein Panel.

Apo A1	Apo C3	Apo H
Apo A2	Apo D	Apo J
Apo B	Apo E	CRP (C-reactive protein)
Apo C1		

BIO-RAD

Assay Performance Definitions

The following parameters are indicative of assay performance, as shown in Table 2.

Assay working range – the range of concentrations within which the assay is precise and accurate. Boundaries of the assay working range are defined by the lower limit of quantitation (LLOQ) and the upper limit of quantitation (ULOQ)

Precision – the coefficient of variation (%CV) at concentrations within the assay working range

Accuracy (recovery) – percentage of the observed concentration relative to the expected concentration of a known amount of analyte within the assay working range

Sensitivity (limit of detection, LOD) – the concentration of analyte for which the fluorescence intensity signal is two standard deviations above the background signal

Table 2. Representative performance characteristics.

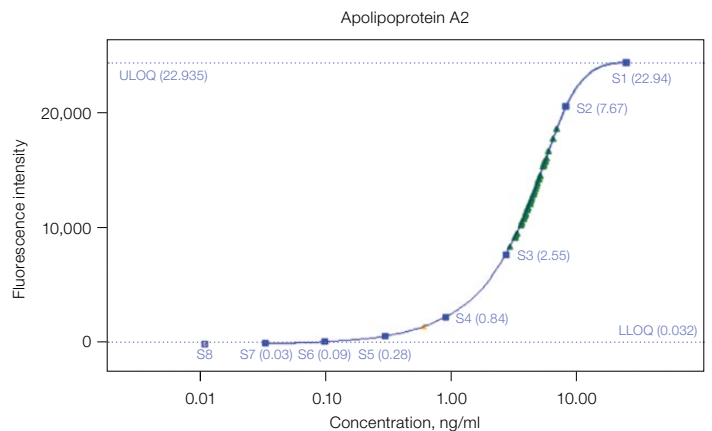
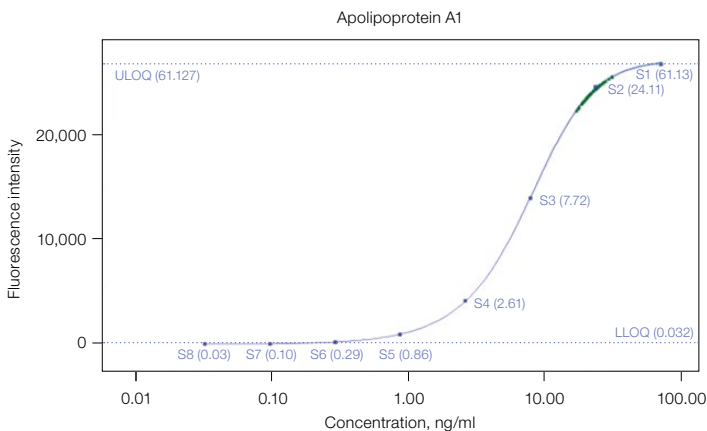
Analyte	Alternative Names	Bead Region	Assay Working Ranges, ng/ml		Assay Sensitivity, ng/ml	Assay Precision	
			LLOQ*	ULOQ*	LOD**	Intra-Assay %CV	Inter-Assay %CV
Apolipoprotein A1	Apo A1	22	0.059	70	0.045	4	7
Apolipoprotein A2	Apo A2	26	0.032	36	0.016	6	15
Apolipoprotein B	Apo B	44	0.41	360	0.22	6	12
Apolipoprotein C1	Apo C1	36	0.030	17	0.0082	3	5
Apolipoprotein C3	Apo C3	39	0.023	28	0.013	3	10
Apolipoprotein D	Apo D	12	0.055	30	0.027	3	9
Apolipoprotein E	Apo E	38	0.021	12	0.012	4	6
Apolipoprotein H	Apo H	75	0.15	210	0.11	3	8
Apolipoprotein J	Clusterin/Apo J	48	0.12	170	0.078	2	8
C-reactive protein	CRP	78	0.019	11	0.0087	3	5

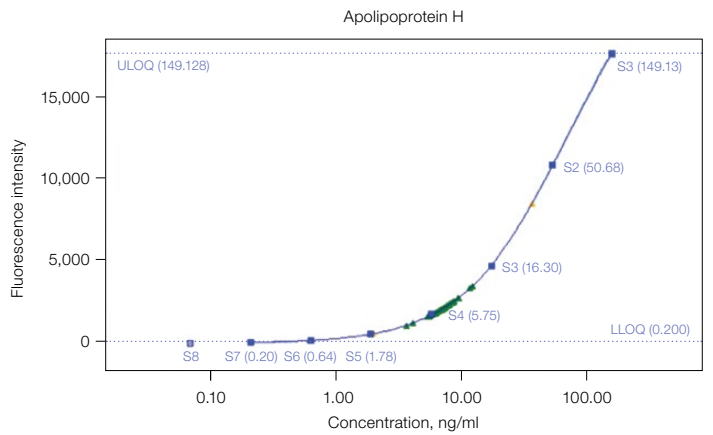
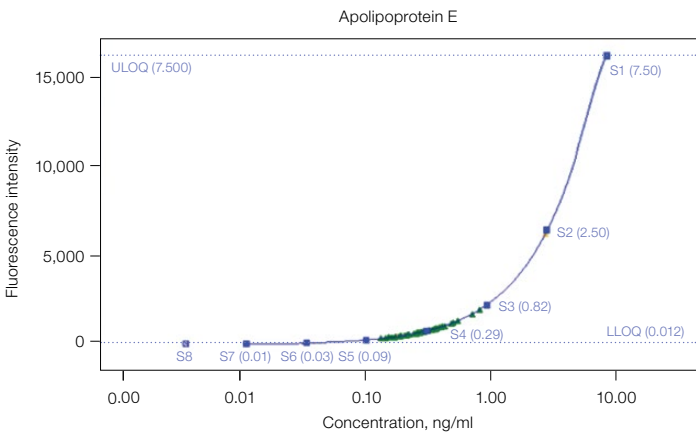
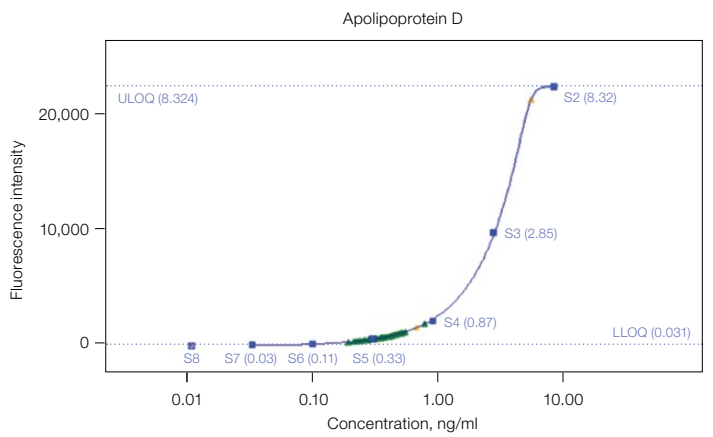
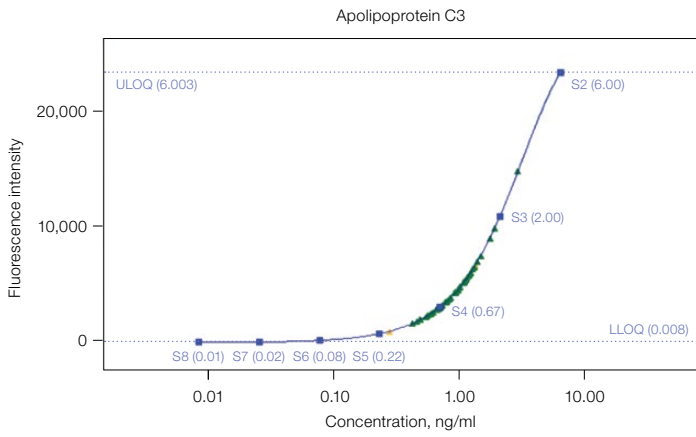
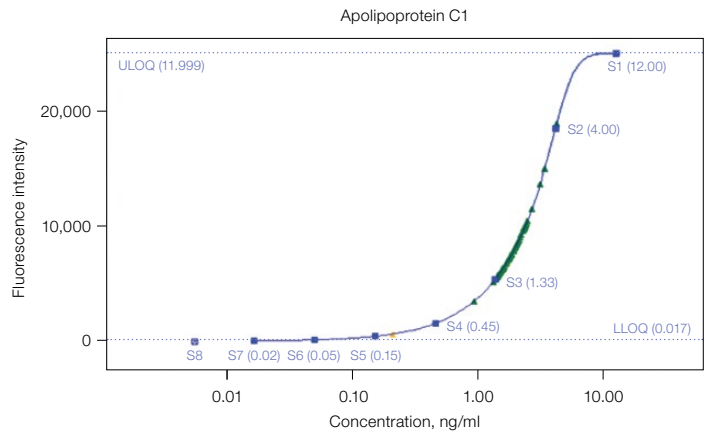
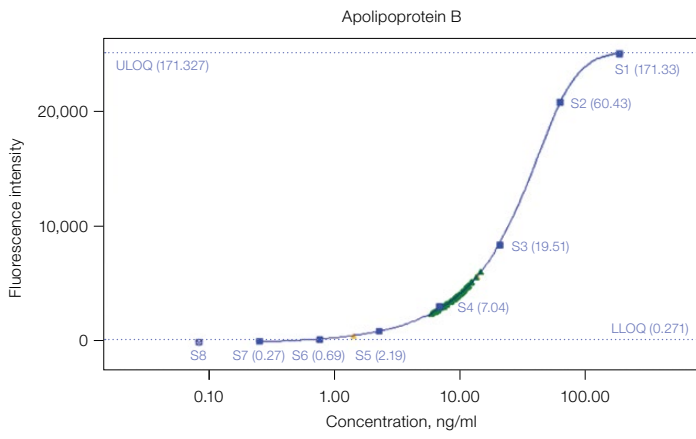
* LLOQ and ULOQ are the lower and upper limits of quantitation where measurements are both accurate (80–120% recovery) and precise ($\leq 30\%$ CV).

** LOD is the limit of detection determined by adding two standard deviations to the background median fluorescence intensity (MFI) of standard diluent and extracting the concentration from the standard curve. All values in the table represent the mean from at least three separate assay plates.

Working Range

The assay working range should encompass the biological range of expression in order to be useful in research. Bio-Plex Pro Assays are developed and optimized to ensure that biological samples fall within the quantifiable regions of the assay as demonstrated by comparing the standard curves of assay controls to biological samples.





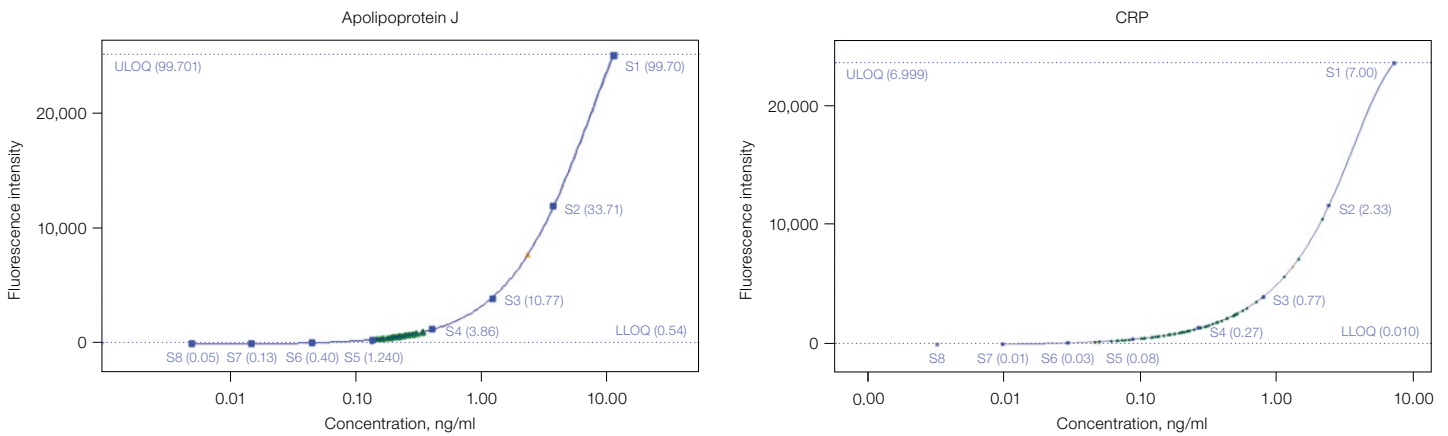


Fig. 1. Sample detection and working range. Standard curves with assay controls and serum samples were generated per the kit protocol. Standard points were prepared by serially diluting a reconstituted standard provided in each kit to generate an eight-point standard curve. The standard calibration curves plotted with standard points (■), samples (▲), and controls (▲) illustrate the broad working range of the assays. Shown below are representative data for serum samples from healthy control groups and patients with cancer (prostate, lung, colorectal, and ovarian). n = 63.

Ordering Information

Catalog #	Description
Human Apolipoprotein Assays	
12003081	Bio-Plex Pro Human Apolipoprotein Assay Panel, 10-plex. 1 x 96-well, includes magnetic capture beads, detection antibodies, vial of standards, two-level controls, diluents, buffers, streptavidin-PE, flat bottom plate, and plate seals for the detection of nine human apolipoproteins and C-reactive protein
Wash Stations and Accessories	
30034376	Bio-Plex Pro Wash Station, microplate wash station for magnetic bead-based assays, includes magnetic plate carrier, waste bottle, 2 liquid bottles
171020100	Bio-Plex Handheld Magnetic Washer, includes magnetic washer and adjustment hex tools for use in manual wash steps for all Bio-Plex magnetic assays
171025001	Bio-Plex Pro Flat Bottom Plates, pkg of 40, 96-well plates, for use with Bio-Plex Pro Wash Stations when using magnetic bead-based assays

Catalog #	Description
Software	
171001510	Bio-Plex Data Pro™ Software with Bio-Plex Manager™ Software. Bio-Plex Data Pro Software (5 seats), for multi-experiment analysis and advanced data visualization, and Bio-Plex Manager Software (5 seats), for instrument data evaluation and optimization. CDs and security HASP key included
171001513	Bio-Plex Data Pro Software, (5 seats), for multi-experiment analysis and advanced data visualization
171STND01	Bio-Plex Manager Software, includes 1 user desktop license, for analysis of Bio-Plex data and generation of protocols, does not operate the instrument

Visit bio-rad.com/apolipoprotein for more information.

The Bio-Plex Suspension Array System includes fluorescently labeled microspheres and instrumentation licensed to Bio-Rad Laboratories, Inc. by the Luminex Corporation.

MAGPIX is a trademark of the Luminex Corporation.



**Bio-Rad
Laboratories, Inc.**

Life Science
Group

Web site bio-rad.com USA 1 800 424 6723 Australia 61 2 9914 2800 Austria 43 1 877 89 01 177 Belgium 32 (0)3 710 53 00 Brazil 55 11 3065 7550
Canada 1 905 364 3435 China 86 21 6169 8500 Czech Republic 420 241 430 532 Denmark 45 44 52 10 00 Finland 358 09 804 22 00
France 33 01 47 95 69 65 Germany 49 89 31 884 0 Hong Kong 852 2789 3300 Hungary 36 1 459 6100 India 91 124 4029300 Israel 972 03 963 6050
Italy 39 02 216091 Japan 81 3 6361 7000 Korea 82 2 3473 4460 Mexico 52 555 488 7670 The Netherlands 31 (0)318 540 666 New Zealand 64 9 415 2280
Norway 47 23 38 41 30 Poland 48 22 331 99 99 Portugal 351 21 472 7700 Russia 7 495 721 14 04 Singapore 65 6415 3188 South Africa 27 (0) 861 246 723
Spain 34 91 590 5200 Sweden 46 08 555 12700 Switzerland 41 026674 55 05 Taiwan 886 2 2578 7189 Thailand 66 2 651 8311
United Arab Emirates 971 4 8187300 United Kingdom 44 020 8328 2000

