

Technical Data Sheet Rat TNF Flex Set

Product Information

Material Number:	558309
Size:	100 Tests
Bead Position:	C8
Assay Range:	40-10,000 pg/mL
Reactivity:	QC Testing: Rat Tested in Development: Mouse

Component Description: Rat TNF Standard
 Component Mat. No: 51-9004115
 Component Storage Buffer: Lyophilized in an aqueous buffered solution containing BSA and ProClin™ 150.

Component Description: Rat TNF PE Detection Reagent
 Component Mat. No: 51-9004160
 Component Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Component Description: Rat TNF Capture Bead C8
 Component Mat. No: 51-9005325
 Component Storage Buffer: Aqueous buffered solution containing fetal bovine serum and ≤0.09% sodium azide.

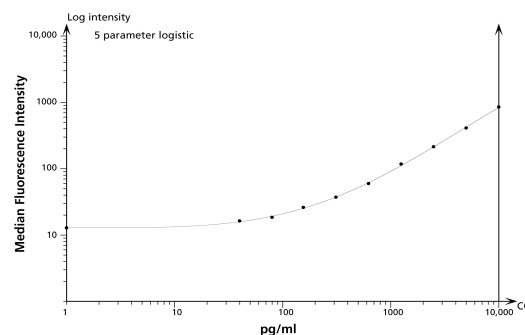


Figure 1. Example BD CBA Rat TNF Flex Set standard curve. Data acquired on a BD FACSAry bioanalyzer and analyzed using FCAP Array Software.

Description

The BD™ CBA Rat TNF Flex Set is a bead-based immunoassay capable of measuring rat tumor necrosis factor (TNF) in serum and cell culture supernatant samples. Rat and mouse reactivity was determined by testing samples with the BD CBA Rat TNF Flex Set. For quantitation of mouse TNF, we recommend the BD™ CBA Mouse TNF Flex Set (Cat. No. 558299). For more information on bead-based immunoassays, refer to the product insert for the BD CBA Mouse/Rat Soluble Protein Master Buffer Kit (Cat. No. 558266 or 558267).

Preparation and Storage

This BD™ CBA Flex Set contains one vial each of Capture Bead and PE Detection Reagent and two vials of Standard. The Capture Bead and PE Detection Reagent components of this flex set have been formulated to a 50x concentration to ensure product performance when multiplexed. The Standard component is lyophilized and should be transferred to a 15 mL polypropylene tube for reconstitution. When reconstituted in 4.0 mL Assay Diluent, the standard has a protein concentration of 10,000 pg/mL. Discard unused reconstituted standard, do not store or reuse. Store lyophilized standard and other components at 4°C. Protect Capture Beads and the PE Detection Reagent from prolonged exposure to light.

Application Notes

Recommended Assay Procedure: The BD CBA Rat TNF Flex Set must be used in conjunction with a BD CBA Mouse/Rat Soluble Protein Master Buffer Kit (Cat. No. 558266, 100 tests, or 558267, 500 tests), a flow cytometer, and FCAP Array™ Software. Detailed instructions on the use of this product can be found in the manual for the BD CBA Mouse/Rat Soluble Protein Master Buffer Kit. When following the directions in the Master Buffer Kit, the top standard point for the BD CBA Rat TNF Flex Set will be 10,000 pg/mL. An example standard curve is shown in figure 1.

The BD CBA Rat TNF Flex Set should not be used in the same assay well with any non-BD CBA Rat Soluble Protein Flex Set reagents (such as

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Performance

Limit of Detection: The theoretical limit of detection is 27.7 pg/mL and was determined by evaluating the estimated result of the average MFI of the negative control (0 pg/mL, $n=30$) + 2 standard deviations.

Specificity		Inter-Assay Reproducibility			Intra-Assay Reproducibility		
		Mean (pg/ml)	Standard Deviation	%CV	Mean (pg/ml)	Standard Deviation	%CV
Rat TNF	Sample 1	167.2	12.8	8%	165.4	15.5	9%
	Sample 2	613.5	45.5	7%	647.0	34.0	5%
	Sample 3	2424.7	117.9	5%	2648.6	167.4	6%

Reproducibility: The inter-assay and intra-assay reproducibility were determined for the BD CBA Rat TNF Flex Set by evaluating ten replicates of three different sample levels (inter-assay) and two replicates of three different sample levels from four separate experiments (intra-assay) respectively.

Sample Dilution	Cell Culture Supernatant		Serum	
	Average % Recovery	Range	Average % Recovery	Range
Rat TNF	95%	92 - 99%	19%	18 - 21%

Recovery: Cell culture supernatant and pooled rat serum were spiked with three different levels of protein. The spiked samples were assayed and the results were compared with expected values. Serum samples were diluted 1:4 before the protein was spiked into each. Serum used was commercially available pooled rat serum.

Sample Dilution	Cell Culture Supernatant		Serum	
	Detected (pg/ml)	% of Expected	Detected (pg/ml)	% of Expected
Spiked sample	2249.9	100%	787.1	100%
1 : 2	1189.5	106%	483.8	123%
1 : 4	600.1	107%	263.2	134%

Linearity: Cell culture supernatant and 1:4 diluted pooled rat serum were spiked with protein and serially diluted. The diluted samples were assayed and the results were compared with the original spiked sample.

Product Notices

- ProClin is a trademark of Rohm and Haas Company.
- Source of all serum proteins is from USDA inspected abattoirs located in the United States.
- Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
- Warning: CBA lyophilized standard contains 0.02% (w/w) of a CMIT/MIT mixture (3:1), which is a mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC No 220-239-6] (3:1).
Hazard statement: May cause an allergic skin reaction.
Precautionary statements: Wear protective gloves/eye protection. Wear protective clothing. Avoid breathing mist/vapours/spray. If skin irritation or rash occurs: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. Dispose of contents/container in accordance with local/regional/national/international regulations.

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