

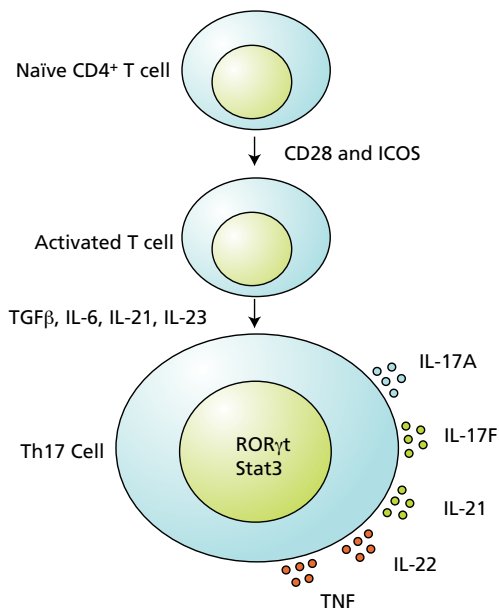
# BD Pharmingen Mouse IL-17A antibodies for flow cytometry and multiplexed bead assays

## Features

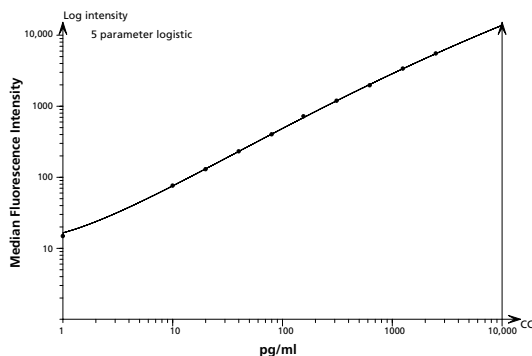
Available in a wide selection of fluorochromes

No-azide/low endotoxin (NA/LE) antibody available for functional studies

Also offered in the BD CBA format for simultaneous quantitation of multiple analytes from a single sample



**Mouse Th17 Differentiation Pathway.** Induction of the Th17 lineage from a naïve T cell requires engagement of CD28 and ICOS in the presence of the appropriate cytokines. These cytokines promote expression of the signature Th17 cytokines via the ROR $\gamma$ t and Stat3 transcription factors.



**BD CBA Mouse IL-17A Flex Set standard curve.** Data acquired on a BD FACSAArray™ bioanalyzer and analyzed using FCAP Array™ software (Cat. No. 641488).

BD Biosciences expanded selection of IL-17A reagents provides essential tools for research in Th17 biology and builds on our experience in measuring Th1/Th2 responses and our leadership in T cell research.

BD Pharmingen™ IL-17A reagents are available as purified antibodies in ready-to-use fluorochrome-conjugated formats and as BD™ Cytometric Bead Array (CBA) assays to support research on the role of Th17 cells in inflammation and autoimmune responses. The BD CBA format enables simultaneous quantitation of multiple analytes, further enhancing research productivity by providing more data from less sample and in less time.

### A high-purity monoclonal antibody

The BD Pharmingen-brand IL-17A antibody (clone TC11-18H10) reacts with recombinant and natural mouse IL-17A, also known as CTLA-8. IL-17A is a member of the IL-17 family of proinflammatory cytokines that includes IL-17A, IL-17B, IL-17C, IL-17D, IL-17E (IL-25), and IL-17F.<sup>1</sup>

### Maximum flexibility in multicolor experiment design

The IL-17A antibody (clone TC11-18H10) is available with a selection of seven different fluorochromes, enabling maximum flexibility in the design of multicolor panels with BD Cytofix/Cytoperm™ buffers and staining protocols for flow cytometric analysis of IL-17-producing cells.

### More data from less sample with BD CBA assays

The BD CBA system makes it possible to quantitate IL-17A and its related factors (IL-21 and the shared p40 subunit of IL-12 and IL-23) in mouse serum, plasma, and supernatant samples in a multiplex format that significantly reduces sample requirements and experiment time. Multiplexing can also yield contextual answers that might be more relevant than single measurements.

The BD CBA system uses flow cytometry to create a powerful multiple analyte (multiplex) assay system. It uses antibody-coated beads to capture analytes efficiently. Each bead has a unique fluorescence intensity. With the broad dynamic range of fluorescence detection offered by flow cytometry, multiple analytes can be run simultaneously in a single tube. Visit [bdbiosciences.com/cba](http://bdbiosciences.com/cba) for more information.

### Meeting specific research needs

For functional studies, a no-azide/low endotoxin (NA/LE) format is available. Mouse IL-17A antibodies are also available in purified formats and biotin (clone TC11-8H4.1) for ELISA.

Visit [bdbiosciences.com/tcell](http://bdbiosciences.com/tcell) for more information.



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## Th17 cells in inflammation and autoimmune response

A subset of helper T cells that produce IL-17A has been shown to have an important role in the induction of autoimmune tissue injury. These cells (called Th17 cells) are distinct from Th1 or Th2 cells since they do not produce classical Th1 or Th2 cytokines such as IFN- $\gamma$  or IL-4. They play a key role in mouse models of autoimmunity, and it has been suggested that the differentiation pathway from a naïve T-helper cell to a Th17 cell involves a combination of TGF- $\beta$  and IL-6.<sup>2</sup> ROR $\gamma$ t is a key transcription factor involved in induction of Th17 cells. Some ROR $\gamma$ t expression is induced in response to IL-6 or TGF- $\beta$ , but the generation of Th17 cells requires TGF- $\beta$  as well as IL-6. Furthermore it is believed that the relative balance of IL-6 and TGF- $\beta$  in steady state

would tilt the balance in favor of either Th17 or Treg differentiation in diverse tissues.<sup>3</sup>

Induction of the Th17 subset requires TGF- $\beta$  and IL-6, while amplification of IL-17A-producing cells is dependent upon TGF- $\beta$  and IL-21. Maintenance of a Th17 response primarily depends on IL-23 (p19/p40). IL-23 binds to the IL-23 receptor, which triggers downstream activation of Stat3 and subsequent production of IL-17A. Since IL-17A leads to the induction of many proinflammatory factors such as TNF, IL-6, and IL-1 $\beta$ , it has been suggested that Th17 cells might be responsible for the development and/or progression of autoimmune diseases such as experimental autoimmune encephalomyelitis (EAE) and colitis.<sup>4</sup>

## References

1. Aggarwal S, Gurney AL. IL-17: prototype member of an emerging cytokine family. *J Leukoc Biol.* 2002;71:1-8.
2. Bettelli E, Oukka M, Kuchroo VK. TH-17 cells in the circle of immunity and autoimmunity. *Nat Immunol.* 2007;8:345-350.
3. Ivanov II, McKenzie BS, Zhou L, et al. The orphan nuclear receptor ROR $\gamma$ t directs the differentiation program of proinflammatory IL-17+ T helper cells. *Cell.* 2006;126:1121-1133.
4. Hunter CA. Act1-ivating IL-17 inflammation. *Nat Immunol.* 2007;8:232-234.

## Ordering Information

Description	React	Clone	Isotype	Apps	Regulatory	Format	Size	Cat. No.
IL-17A	Ms	TC11-8H4.1	Rat IgG <sub>1</sub>	ELISA Det. , WB	RUO	Biotin	0.5 mg	555067
				IC/FCM , Neu , WB	RUO	NA/LE	0.5 mg	560268
				ELISA Cap., IC/FCM Block , WB	RUO	Purified	0.5 mg	555068
					RUO		0.1 mg	559501
		TC11-18H10	Rat IgG <sub>1</sub> , $\kappa$	IC/FCM	RUO	Alexa Fluor® 488	25 $\mu$ g	560221
					RUO		0.1 mg	560220
					RUO	Alexa Fluor® 647	25 $\mu$ g	560224
					RUO		0.1 mg	560184
					RUO	Alexa Fluor® 700	50 $\mu$ g	560820
					RUO	APC-Cy™7	50 $\mu$ g	560821
					RUO	BD Horizon™ V450	50 $\mu$ g	560522
					RUO	PE	25 $\mu$ g	561020
					RUO		0.1 mg	559502
					RUO	PerCP-Cy™5.5	0.1 mg	560666
Mouse IL-17A Flex Set (Bead C5)	Ms			FCM	RUO		100 tests	560283

## Related Products

Description	Apps	Size	Cat. No.
BD Cytotfix/Cytoperm Fixation/Permeabilization Solution	IC/FCM	250 tests	554722
BD CBA Mouse IL-21 Flex Set	FCM	100 tests	560160
BD CBA Mouse IL-12/IL-23p40 Flex Set	FCM	100 tests	560151
BD CBA Mouse IL-1 $\beta$ Flex Set	FCM	100 tests	560232
BD CBA Mouse IL-6 Flex Set	FCM	100 tests	558301
BD CBA Mouse TNF Flex Set	FCM	100 tests	558299
Mouse/Rat Soluble Protein Master Buffer Kit	FCM	100 tests	558266
	FCM	500 tests	558267



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