Technical Data Sheet

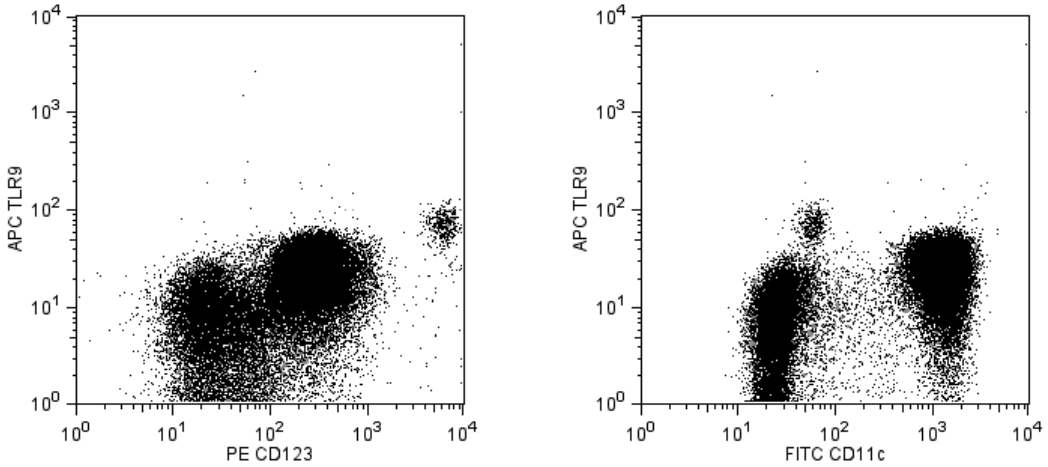
APC Rat anti-Human TLR9

Product Information

Material Number:	**560428**
Size:	100 tests
Vol. per Test:	20 µl
Clone:	eB72-1665
Isotype:	Rat IgG2a, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

Toll-like receptor 9 (TLR9), also designated as CD289, is a type 1 transmembrane glycoprotein (~110-119 kDa calculated molecular weights for protein isoforms) encoded by the TLR9 gene in chromosome 3. TLR9 is a member of the Toll-like receptor (TLR) family whose members play fundamental roles in pathogen recognition and activation of innate immunity. TLR9 is highly expressed by plasmacytoid dendritic cells and B cells and at lower levels in some other cell types. TLR9 is expressed predominantly in the endoplasmic reticulum. It is recruited to endosomal and lysosomal compartments upon cellular stimulation by bacterial, viral or synthetic DNA molecules that contain unmethylated CpG dinucleotide sequences. TLR9 generated signals lead to the activation of genes that express type-I interferons and proinflammatory cytokines including IL-6 and IL-12. TLR9-mediated signaling is also implicated in acquired immune responses as well as in the pathogenesis of autoimmune diseases. The eB72-1665.1 mAb recognizes the human TLR9 epitope from the peptide sequence, amino acids 273-288.



Flow cytometric analysis of APC anti-human TLR9 on resting PBMC. *Human PBMC were fixed and permeabilized using BD Cytofix/Cytoperm™ reagents (Cat. No. 554714) followed by staining with APC anti-human TLR9, PerCP-Cy5.5 anti-human HLA-DR (Cat. No. 339194) and PE anti-human CD123 (Cat. No. 554529, left panel) or FITC anti-human CD11c (Clone B-ly6, right panel). The dot plots were derived from a HLA-DR+ gate. Flow cytometry was performed on a BD FACSCalibur™ System.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated to APC under optimum conditions, and unconjugated antibody and free APC were removed.

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554529	PE Mouse Anti-Human CD123	0.2 mg	7G3
554714	BD Cytofix/Cytoperm™ Fixation/Permeablization Kit	250 tests	(none)

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Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. This APC-conjugated reagent can be used in any flow cytometer equipped with a dye, HeNe, or red diode laser.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. 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.

References

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Chuang TH, Ulevitch RJ. Cloning and characterization of a sub-family of human toll-like receptors: hTLR7, hTLR8 and hTLR9. *Eur Cytokine Netw.* 2000; 11(3):372-378. (Immunogen)

Hemmi H, Takeuchi O, Kawai T, et al. A Toll-like receptor recognizes bacterial DNA. *Nature.* 2000; 408(6813):740-745. (Biology)

Kumagai Y, Takeuchi O, Akira S. TLR9 as a key receptor for the recognition of DNA. *Adv Drug Deliv Rev.* 2008; 60(7):795-804. (Biology)

Latz E, Schoenemeyer A, Visintin A, et al. TLR9 signals after translocating from the ER to CpG DNA in the lysosome. *Nat Immunol.* 2004; 5(2):190-198. (Biology)

Leifer CA, Kennedy MN, Mazzoni A, Lee C, Kruhlak MJ, Segal DM. TLR9 is localized in the endoplasmic reticulum prior to stimulation. *J Immunol.* 2004; 173(2):1179-1183. (Biology)