

# APC anti-human CD284 (TLR4) Antibody

<b>Catalog# / Size</b>	312815 / 25 tests 312816 / 100 tests
<b>Clone</b>	HTA125
<b>Regulatory Status</b>	RUO
<b>Workshop</b>	HCDM listed
<b>Other Names</b>	Toll-like Receptor 4, TLR4, TLR-4, CD284
<b>Isotype</b>	Mouse IgG2a, $\kappa$
<b>Description</b>	Toll-like receptors are type I transmembrane signaling receptors. They are primordial pathogen-recognition proteins that function as sentinels for the innate immune system. TLR4, also known as CD284, is a 110 kD protein which is expressed on monocytes/macrophages, endothelial cells, and at low levels on B cells and granulocytes. In association with a secretory molecule, MD2, TLR4 has been recognized as critical for host recognition of bacterial LPS. HTA125 antibody is useful for flow cytometric analysis and is able to block LPS-induced cytokine production.

## Product Details

<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	Guinea Pig
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Ba/F3 cell line expressing human TLR4
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with APC under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our <a href="#">Certificate of Analysis</a> online tool.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is 5 $\mu$ l per million cells in 100 $\mu$ l staining volume or 5 $\mu$ l per 100 $\mu$ l of whole blood.
<b>Excitation Laser</b>	Red Laser (633 nm)
<b>Application Notes</b>	Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen sections <sup>4</sup> , immunofluorescence microscopy <sup>6</sup> , Western blotting <sup>10</sup> , and <i>in vitro</i> blocking of LPS-induced cytokine production <sup>2,3,7,9</sup> . This clone was tested in-house and does not work on formalin fixed paraffin-embedded (FFPE) tissue. For most successful immunofluorescent staining results, it may be important to maximize signal over background by using a relatively bright fluorochrome-antibody conjugate (Cat. No. 312806) or by using a high sensitivity, three-layer staining technique (e.g., including a biotinylated antibody (Cat. No. 312804) or biotinylated anti-mouse IgG second step (Cat. No. 405303), followed by SAV-PE (Cat. No. 405204). The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/ $\mu$ g, Azide-Free, 0.2 $\mu$ m filtered) is recommended for functional assays (Cat. No. 312813 & 312814).

## Application References

1. Skimazu R, *et al.* 1999. *J. Exp. Med.* 189:1777.
2. Wang R, *et al.* 2003. *Hybrid Hybridomics* 22:357. (Block)
3. Wang JE, *et al.* 2001. *Infect. Immun.* 69:2402. (Block)
4. Ishihara S, *et al.* 2004 *J. Immunol.* 173:1406. (IHC)
5. Kawahara T, *et al.* 2001 *Infect. Immun.* 69:4382.
6. Jiang Q, *et al.* 2000. *J. Immunol.* 165:3541. (IF)
7. Sugawara S, *et al.* 2001. *Infect. Immun.* 69:4951. (Block)
8. Chavakis E, *et al.* 2007. *Circ. Res.* 100:204. [PubMed](#)
9. Bhattacharyya S, *et al.* 2007. *Am. J. Physiol. Gastrointest Liver Physiol.* doi:10.1152/ajpgi.00149. (Block) [PubMed](#)
10. Baumgarten G, *et al.* 2001. *J. Infectious. Dis.* 183:1617.

## Product Citations

1. Pop OT, *et al.* 2023. *Cell Mol Gastroenterol Hepatol.* 17:16. [PubMed](#)
2. Torres-Ruiz J, *et al.* 2020. *J Transl Med.* 18:125. [PubMed](#)
3. Wu X, *et al.* 2015. *Arch Oral Biol.* 60:463. [PubMed](#)
4. Wang Y, *et al.* 2019. *J Transl Med.* 17:93. [PubMed](#)
5. Billing F, *et al.* 2021. *ACS Appl Mater Interfaces.* 13:55534. [PubMed](#)
6. Jost M, *et al.* 2021. *eLife.* 10:00. [PubMed](#)
7. Lewis SA, *et al.* 2021. *Front Immunol.* 12:724015. [PubMed](#)
8. Gruenbacher G, *et al.* 2021. *British Journal of Pharmacology.* 178(7):1541-1555. [PubMed](#)

## RRID

AB\_2562486 (BioLegend Cat. No. 312815)  
AB\_2562486 (BioLegend Cat. No. 312816)

## Antigen Details

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Structure	Type I transmembrane protein, Toll-like receptor family/IL-1R superfamily, 110 kD
Distribution	Monocytes/macrophages, endothelial cells, B cells and granulocytes
Function	Activates the innate immune system against Gram-negative bacterial pathogens by recognition of LPS
Ligand/Receptor	Bacterial LPS
Cell Type	B cells, Endothelial cells, Granulocytes, Macrophages, Monocytes, Tregs
Biology Area	Cell Biology, Immunology, Innate Immunity, Neuroinflammation, Neuroscience, Neuroscience Cell Markers
Molecular Family	CD Molecules, Toll Like Receptors
Antigen References	1. Skimazu R, <i>et al.</i> 1999. <i>J. Exp. Med.</i> 189:1777.
Gene ID	<a href="#">7099</a>

## Related Protocols

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- [Cell Surface Flow Cytometry Staining Protocol](#)

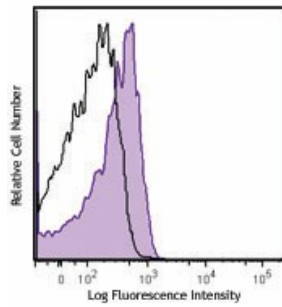
## Other Formats

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Purified anti-human CD284 (TLR4), Biotin anti-human CD284 (TLR4), PE anti-human CD284 (TLR4), Brilliant Violet 421™ anti-human CD284 (TLR4), Ultra-LEAF™ Purified anti-human CD284 (TLR4), APC anti-human CD284 (TLR4), TotalSeq™-A0405 anti-human CD284 (TLR4), TotalSeq™-C0405 anti-human CD284 (TLR4), TotalSeq™-B0405 anti-human CD284 (TLR4) Antibody

## Product Data

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Human peripheral blood monocytes were stained with CD284 (clone HTA125) APC (filled histogram) or mouse IgG2a,  $\kappa$  APC isotype control (open histogram).

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