CD152 (CTLA-4) Monoclonal Antibody (14D3), APC-eFluor 780, eBioscience™

Product Details	
Size	100 Tests
Species Reactivity	Human, Rhesus monkey
Host/Isotype	Mouse / IgG2a, kappa
Class	Monoclonal
Type	Antibody
Clone	14D3
Conjugate	APC-eFluor® 780
Form	Liquid
Concentration	5 µL/Test
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2, with 0.2% BSA
Contains	0.09% sodium azide
Storage conditions	4° C, store in dark, DO NOT FREEZE!
RRID	AB_2688178

Applications	Tested Dilution	Publications
Flow Cytometry (Flow)	5 µL (0.06 µg)/test	2 Publications

Product Specific Information

Description: The 14D3 monoclonal antibody reacts with human CD152, also known as cytotoxic T lymphocyte antigen-4 (CTLA-4). CTLA-4, a protein with structural similarities to CD28, is expressed on activated T cells (activated B cells may also express CTLA-4) and binds the B7 family members, CD80 (B7-1) and CD86 (B7-2), with higher affinity than CD28 does. CTLA-4 and CD28 appear to deliver opposing signals to T cells: while CD28 is a potent costimulator, CTLA-4 restricts the progression of T cells to an activated state by inhibiting IL-2 secretion and cellular proliferation. The cytoplasmic portion of CTLA-4 contains ER retention motifs, resulting in intracellular localization of a large proportion of newly synthesized CTLA-4 in response to TCR signaling.

The 14D3 antibody also recognizes rhesus monkey and has inhibitor activity.

Applications Reported: This 14D3 antibody has been reported for use in intracellular staining followed by flow cytometric analysis.

Applications Tested: This 14D3 antibody has been pre-titrated and tested by intracellular staining and flow cytometric analysis of stimulated human peripheral blood cells using the Intracellular Fixation and Permeabilization Buffer Set (cat. 88-8824) and protocol. Please refer to Best Protocols: Protocol A: Two step protocol for (cytoplasmic) intracellular proteins located under the Resources Tab online. This can be used at 5 µL (0.06 µg) per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test.

Furthermore, due to the intracellular localization of a large portion of CTLA-4, for complete detection it may be necessary to assess intracellular expression, in addition to surface expression of CTLA-4.

APC-eFluor™ 780 emits at 780 nm and is excited with the Red laser (633 nm). Please make sure that your instrument is capable

of detecting this fluorochrome.

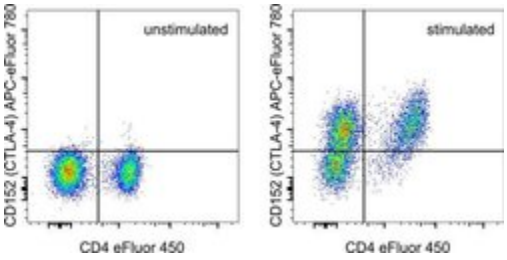
Light sensitivity: This tandem dye is sensitive to photo-induced oxidation. Please protect this vial and stained samples from light.

Fixation: Samples can be stored in IC Fixation Buffer (Product # 00-8222) (100 µL of cell sample + 100 µL of IC Fixation Buffer) or 1-step Fix/Lyse Solution (Product # 00-5333) for up to 3 days in the dark at 4°C with minimal impact on brightness and FRET efficiency/compensation. Some generalizations regarding fluorophore performance after fixation can be made, but clone specific performance should be determined empirically.

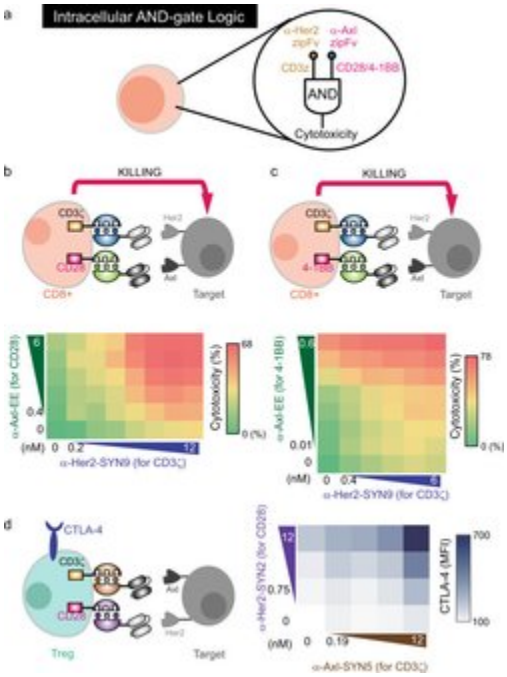
Excitation: 633-647 nm; Emission: 780 nm; Laser: Red Laser.

Filtration: 0.2 µm post-manufacturing filtered.

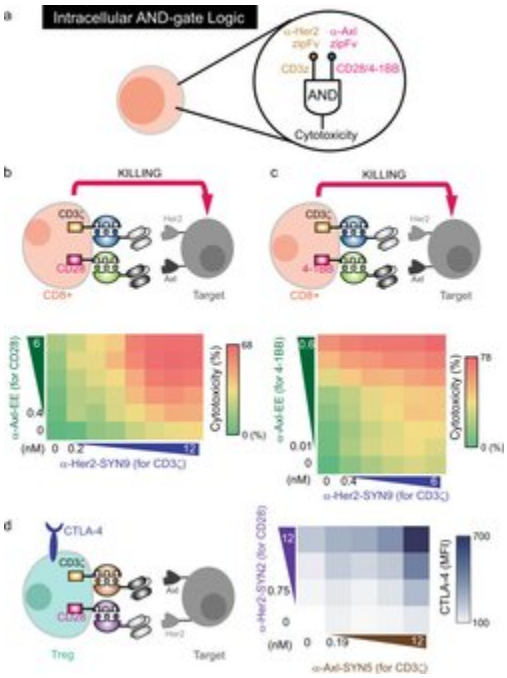
Product Images For CD152 (CTLA-4) Monoclonal Antibody (14D3), APC-eFluor 780, eBioscience™



CD152 (CTLA-4) Antibody (47-1529-42) in Flow
Staining of unstimulated (left) or 3-day PHA-stimulated (right) (Product # 00-4977-03) normal human peripheral blood cells with Anti-Human CD4 eFluor® 450 (Product # 48-0049-42) and Anti-Human CD152 (CTLA-4) APC-eFluor® 780. Viable cells in the lymphocyte gate, as determined by Fixable Viability Dye eFluor® 506 (Product # 65-0866-14), were used for analysis.



CD152 (CTLA-4) Antibody (47-1529-42)
Fig. 3 The intracellular AND logic with different signaling domains. a Diagram of intracellular AND logic. b Primary human CD8+ T cells were transduced with FOS zipCAR-containing CD3zeta domain and RR zipCAR-containing CD28 domain. Cytotoxicity against Her2- and Axl-expressing Nalm6 was measured 24 h after adding alpha-Her2-SYN9 and/or alpha-Axl-EE zipFvs. The heatmap indicates cytotoxicity at varying zipFv concentrations (n = 3, data are represented as mean). c Cytotoxicity of CD8+ T cells transduced with FOS zipCAR-containing CD3zeta domain and RR zipCAR-containing 4-1BB domain. The heatmap indicates cytotoxicity at varying zipFv concentrations (n = 3, data are represented as mean). d (Left) Isolated Treg cells were transduced with two zipCAR constructs: SYN6-CD3zeta-P2A-FOXP3 and SYN1-CD28-P2A-puro. After puromycin selection (2 mug /mL), Treg cells were co-cultured with Her2- and Axl-expressing Nalm6 target cells (Right) The heatmap shows surface CTLA-4 expression detected after 48 h by flow cytometry at varying zipFv concentrations (alpha-Axl-SYN5 and alpha-Her2-SYN2) (n = 3, data are represented as mean).



CD152 (CTLA-4) Antibody (47-1529-42)
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View more figures on thermofisher.com

2 References

Flow Cytometry (2)

Genome medicine

Methylome-based cell-of-origin modeling (Methyl-COOM) identifies aberrant expression of immune regulatory molecules in CLL.

"Published figure using CD152 (CTLA-4) monoclonal antibody (Product # 47-1529-42) in Flow Cytometry"

Authors: Wierzbinska JA,Toth R,Ishaque N,Rippe K,Mallm JP,Klett LC,Mertens D,Zenz T,Hielscher T,Seifert M,Küppers R,Assenov Y,Lutsik P,Stilgenbauer S,Roessner PM,Seiffert M,Byrd J,Oakes CC,Plass C,Lipka DB

Species
Not Applicable

Dilution
Not Cited

Year
2020

Nature communications

Engineering advanced logic and distributed computing in human CAR immune cells.

"Published figure using CD152 (CTLA-4) monoclonal antibody (Product # 47-1529-42) in Flow Cytometry"

Authors: Cho JH,Okuma A,Sofjan K,Lee S,Collins JJ,Wong WW

Species
Not Applicable

Dilution
Not Cited

Year
2021

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