

Anti-Human CD2 (RPA-2.10)



REF



StarBright™ UltraViolet 445 25BUV4452-100T 100 test Intended use for StarBright™ conjugates

1. PRODUCT DESCRIPTION

Clone: RPA-2.10

Isotype: Mouse IgG1, κ

Tested application: Flow cytometry

Species reactivity: Human

Storage instruction: Store in the dark at 2-8 °C

Storage buffer: Aqueous buffered solution containing protein stabilizer and 0.09% sodium azide (NaN³).

Recommended usage: Immunostep's CD2, clone RPA-2.10, is a monoclonal antibody intended for the identification and enumeration of the CD2 antigen, a 50 kD type I transmembrane glycoprotein also known as LFA-2, TII, and sheep red blood cell receptor (SRBC-R). This member of the immunoglobulin superfamily is expressed on thymocytes, T lymphocytes, natural killer (NK) cells, and subsets of thymic B cells. This reagent is effective for direct immunofluorescence staining of human tissue for flow cytometric analysis using 1 test for 10⁶ cells.

Presentation: liquid

Source: Supernatant proceeding from an in vitro cell culture of a cell hybridoma.

Purification: Affinity chromatography.

2. ANTIGEN DETAILS

Large description: This antibody reacts with the CD2 antigen (also known as LFA-2, TII, or SRBC-R), a monomeric type I transmembrane glycoprotein of 45–58 kDa, expressed on all peripheral blood T lymphocytes, more than 95% of thymocytes, and a subset of natural killer (NK) cells. CD2 is one of the earliest markers of the T-cell lineage and is not expressed on B lymphocytes¹

CD2 plays a central role in T cell adhesion and activation. It interacts primarily with CD58 (LFA-3), a ligand that stabilizes the contact between T cells and antigen-presenting or target cells. Although the CD2–CD58 interaction has relatively low affinity in solution, it is significantly strengthened at the two-dimensional interface of cell-cell contact, especially upon T cell activation. This process involves increased CD2 expression, enhanced lateral mobility, and eventual fixation of CD2–CD58 complexes at the immunological synapse, promoting sustained intercellular adhesion and signaling^{2,3}.

Functionally, monoclonal antibodies against CD2, such as RPA-2.10, inhibit rosette formation with sheep erythrocytes, confirming CD2's role as or in association with the erythrocyte receptor. RPA-2.10 also blocks mixed lymphocyte reactions, further demonstrating its involvement in immune modulation⁴.

CD2 deficiency has been associated with reduced intestinal inflammation and altered immune responses. Dysregulation of CD2 expression or function has been implicated in conditions such as immune deficiency due to thymic absence and penile squamous cell carcinoma. The RPA-2.10 clone cross-reacts with non-human primates and pigs, making it suitable for comparative immunological studies².

Other Names: LFA-2, TII, SRBC-R

Gene ID: 914

Molecular weight: 50 kDa

Revision N° 1 | Emission date: 01/07/2025

3. WARRANTY

Warranted only to conform to the quantity and contents stated on the label or in the product labelling at the time of delivery to the customer. Immunostep disclaims hereby other warranties. Immunostep's sole liability is limited to either the replacement of the products or refund of the purchase price.

4. ADDITIONAL INFORMATION

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5. REFERENCES

- Shibata Y, Nakamura H, Kato S, Tomoike H. Cellular detachment and deformation induce IL-8 gene expression in human bronchial epithelial cells. *J Immunol.* 1996 Jan 15;156(2):772-7. PMID: 8543832.
- O'Rourke AM, Ybarrondo B, Mescher MF. CD8 and antigen-specific T cell adhesion cascades. *Semin Immunol.* 1993 Aug;5(4):263-70. doi: 10.1006/smim.1993.1030. PMID: 8219104.
- Davis SJ, van der Merwe PA. CD2: an exception to the immunoglobulin superfamily concept? *Science.* 1996 Aug 30;273(5279):1241-2. doi: 10.1126/science.273.5279.1241. PMID: 8703062.
- Monoclonal antibodies specific for the erythrocyte binding domain of the T cell adhesion molecule CD2 inhibit T cell rosette formation. *J Immunol.* 148(3):896-903.

6. EXPLANATION OF SYMBOLS



Form

REF

Catalog reference



Contains sufficient for <n> test



Regulatory Status



Quantity per test

RUO

Research Use Only



Manufacturer

7. MANUFACTURED BY: IMMUNOSTEP S.L.



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