Miltenyi Biotec

# CD103 antibodies
mouse

## Contents



## Warnings

Reagents contain sodium azide. Under acidic conditions sodium azide yields hydrazoic acid, which is extremely toxic. Azide compounds should be diluted with running water before discarding. These precautions are recommended to avoid deposits in plumbing where explosive conditions may develop.

## 1. Description

**This product is for research use only.**

| | | |
|---|---|---|
| **Components** | 1 mL monoclonal CD103 antibodies, mouse conjugated to: | |
| | FITC | 130-097-109 |
| | PE | 130-097-107 |
| | APC | 130-097-124 |
| | Biotin | 130-097-104 |
| **Clone** | 2E7 (isotype: hamster IgG). | |
| **Capacity** | 100 tests or up to $10^9$ total cells. | |
| **Product format** | Antibodies are supplied in buffer containing stabilizer and 0.05% sodium azide. | |
| **Storage** | Store protected from light at 2–8 °C. Do not freeze. The expiration date is indicated on the vial label. | |

### 1.1 Background information

- Antigen: CD103
- Synonym: αE integrin
- Expression patterns: Armenian Hamster IgG Clone 2E7 reacts with mouse CD103, a 175 kDa large, type I transmembrane glycoprotein also known as αE integrin. CD103 associates non-covalently with integrin β7 thereby forming the heterodimeric integrin αEβ7. It mediates cell-cell contact and is involved in homing processes by binding to its ligand e-cadherin. CD103 is expressed on >90% of intestinal intraepithelial lymphocytes (IEL), epithelial T cells and regulatory T cells. Due to its differential expression on dendritic cells from peripheral tissues, it is useful in identifying dendritic cell subsets from intestinal lamina propria [1], lung [2] and dermis [3].

### 1.2 Applications

- Identification and enumeration of $CD103^+$ cells by flow cytometry.

### 1.3 Recommended antibody dilution

The recommended antibody dilution for all CD103 conjugates is **1:11 for up to $10^7$ cells/100 µL** of buffer for labeling of cells and subsequent analysis by flow cytometry.

Cells should be stained prior to fixation, if formaldehyde is used as a fixative.

### 1.4 Reagent requirements

- Buffer: Prepare a solution containing phosphate-buffered saline (PBS), pH 7.2, 0.5% bovine serum albumin (BSA), and 2 mM EDTA by diluting MACS® BSA Stock Solution (# 130-091-376) 1:20 with autoMACS® Rinsing Solution (# 130-091-222). Keep buffer cold (2–8 °C).

  ▲ **Note:** EDTA can be replaced by other supplements such as anticoagulant citrate dextrose formula-A (ACD-A) or citrate phosphate dextrose (CPD). Buffers or media containing $Ca^{2+}$ or $Mg^{2+}$ are not recommended for use.

- (Optional) Conjugated anti-biotin antibodies, e.g., Anti-Biotin-PE (# 130-090-756) as secondary antibody reagent in combination with CD103-Biotin.
- (Optional) For antibodies for additional staining or for isotype control, refer to www.miltenyibiotec.com/antibodies.
- (Optional) Propidium Iodide Solution (# 130-093-233) for flow cytometric exclusion of dead cells without fixation.

## 2. General protocol for immunofluorescent staining

Volumes given below are for **up to $10^7$** nucleated cells. When working with fewer than $10^7$ cells, use the same volumes as indicated. When working with higher cell numbers, scale up all reagent volumes and total volumes accordingly (e.g. for $2\times10^7$ nucleated cells, use twice the volume of all indicated reagent volumes and total volumes).

1. Determine cell number.
2. Centrifuge cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
3. Resuspend up to $10^7$ nucleated cells per 100 µL of buffer.
4. Add 10 µL of the CD103 antibody.
5. Mix well and incubate for 10 minutes in the dark in the refrigerator (2–8 °C).

   ▲ **Note:** Higher temperatures and/or longer incubation times may lead to non-specific cell labeling. Working on ice requires increased incubation times.

140-003-469.01

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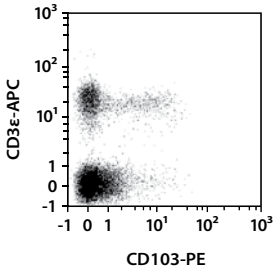
6. Wash cells by adding 1–2 mL of buffer and centrifuge at 300×g for 10 minutes. Aspirate supernatant completely.
7. (Optional) If CD103-Biotin was used, resuspend the cell pellet in 100 µL of buffer, add 10 µL of anti-biotin antibody, and continue as described in steps 5 and 6.
8. Resuspend cell pellet in a suitable amount of buffer for analysis by flow cytometry or fluorescence microscopy.

## 3. Example of immunofluorescent staining with CD103 antibodies

BALB/c mouse splenocytes were stained with CD103 antibodies conjugated to PE as well as with CD3ε-APC (# 130-092-977) and analyzed by flow cytometry using the MACSQuant® Analyzer. Cell debris and dead cells were excluded from the analysis based on scatter signals and propidium iodide fluorescence.




For more examples please refer to the respective product page at www.miltenyibiotec.com/antibodies.

## 4. References

1. Bogunovic, M. and 1 (2009) Origin of the lamina propria dendritic cell network. Immunity 31 (3): 513–525.
2. Sung, S. S. and 1 (2006) A major lung CD103 (alphaE)-beta7 integrin-positive epithelial dendritic cell population expressing Langerin and tight junction proteins. J. Immunol. 176 (4): 2161–2172.
3. Ginhoux, F. and 1 (2007) Blood-derived dermal langerin+ dendritic cells survey the skin in the steady state. J. Exp. Med. 204 (13): 3133–3146.

Refer to www.miltenyibiotec.com for all data sheets and protocols.

### Warranty

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