# Anti-KLRG1 antibodies, human

## For research use only

One test corresponds to labeling of up to $10^7$ cells in a total volume of 100 µL.

| Product | Content | Order no. |
|---|---|---|
| Anti-KLRG1-FITC | for 30 tests | 130-103-705 |
| Anti-KLRG1-FITC | for 100 tests | 130-103-640 |
| Anti-KLRG1-PE | for 30 tests | 130-103-703 |
| Anti-KLRG1-PE | for 100 tests | 130-103-638 |
| Anti-KLRG1-APC | for 30 tests | 130-103-704 |
| Anti-KLRG1-APC | for 100 tests | 130-103-639 |
| Anti-KLRG1-PE-Vio615 | for 30 tests | 130-108-395 |
| Anti-KLRG1-PE-Vio615 | for 100 tests | 130-108-366 |
| Anti-KLRG1-PE-Vio770 | for 30 tests | 130-103-706 |
| Anti-KLRG1-PE-Vio770 | for 100 tests | 130-103-641 |
| Anti-KLRG1-APC-Vio770 | for 30 tests | 130-103-707 |
| Anti-KLRG1-APC-Vio770 | for 100 tests | 130-103-642 |
| Anti-KLRG1-Biotin | for 30 tests | 130-103-762 |
| Anti-KLRG1-Biotin | for 100 tests | 130-103-751 |

## 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.

## Technical data and background information

| | |
|---|---|
| **Antigen** | KLRG1 |
| **Clone** | REA261 |
| **Isotype** | recombinant human IgG1 |
| **Isotype control** | REA Control (S) antibodies |
| **Alternative names of antigen** | Killer cell lectin-like receptor subfamily G member 1, CLEC15A, MAFA, MAFA-2F1, MAFA-L, 2F1 |
| **Molecular mass of antigen [kDa]** | 22 |
| **Distribution of antigen** | basophils, T cells, NK cells |
| **Product format** | Antibodies are supplied in buffer containing stabilizer and 0.05% sodium azide. |
| **Fixation** | The antibody is suited for staining of formaldehyde-fixed cells. |
| **Storage** | Store protected from light at 2–8 °C. Do not freeze. |

Clone REA261 recognizes the killer cell lectin-like receptor subfamily G member 1 (KLRG1) antigen, a transmembrane protein, which is also known as C-type lectin domain family 15 member A (CLEC15A) or ITIM-containing receptor MAFA-L. KLRG1 is expressed by basophils, CD4 and CD8 T cells that exhibit a memory cell phenotype, and by a large proportion of peripheral blood NK cells. Expression of KLRG1 by virus-specific $CD8^+$ T cells is induced by repetitive antigen stimulation and it differs in chronic versus resolved viral infections. T cells expressing KLRG1 exhibit a poor proliferation potential, while their ability to secrete gamma interferon is preserved. Thus, KLRG1 is a convenient marker for early T cell–differentiation.
Additional information: Clone REA261 displays negligible binding to Fc receptors.

## 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) Fluorochrome-conjugated anti-biotin antibodies, e.g., Anti-Biotin-PE (# 130-090-756) as secondary antibody reagent in combination with biotinylated antibodies.
- (Optional) Propidium Iodide Solution (# 130-093-233) for flow cytometric exclusion of dead cells without fixation.
- (Optional) Fixation and Dead Cell Discrimination Kit (# 130-091-163) for cell fixation and flow cytometric exclusion of dead cells.

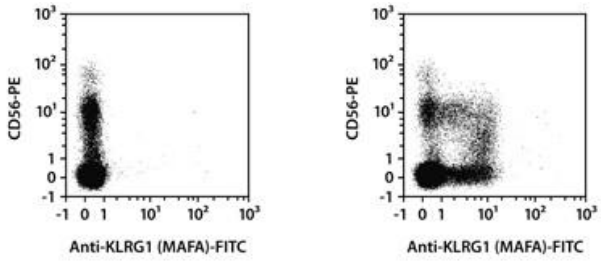
## Protocol for cell surface staining

- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:11 for up to $10^7$ cells/100 µL of buffer.
- 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 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.
6. Wash cells by adding 1−2 mL of buffer and centrifuge at 300×g for 10 minutes. Aspirate supernatant completely.
7. (Optional) If biotinylated antibody was used, resuspend the cell pellet in 100 µL of buffer, add 10 µL of fluorochrome-conjugated 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.

## Examples of immunofluorescent staining

Human peripheral blood mononuclear cells (PBMCs) were stained with Anti-KLRG1 antibodies as well as with CD56 antibodies and analyzed by flow cytometry using the MACSQuant® Analyzer. The Tandem Signal Enhancer has been used to increase binding specificity of tandem-dye–conjugated antibodies. Cell debris and dead cells were excluded from the analysis based on scatter signals and propidium iodide fluorescence or 4',6-diamidino-2-phenylindole (DAPI) fluorescence, as in the case of tandem conjugates.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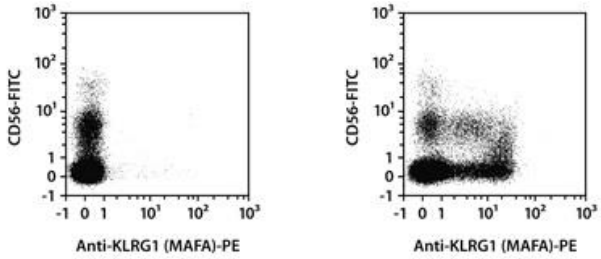
Anti-KLRG1 (MAFA)-FITC
CD56-PE
Anti-KLRG1 (MAFA)-FITC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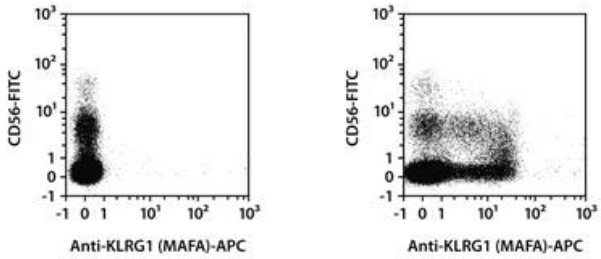
Anti-KLRG1 (MAFA)-PE
CD56-FITC
Anti-KLRG1 (MAFA)-PE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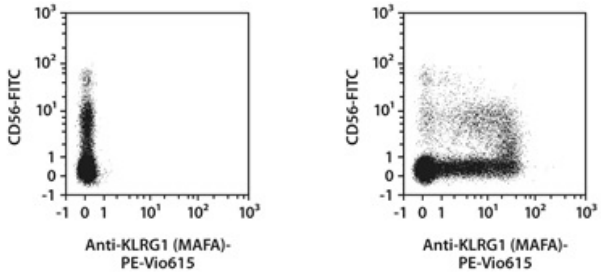
Anti-KLRG1 (MAFA)-APC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PE-Vio615
CD56-FITC
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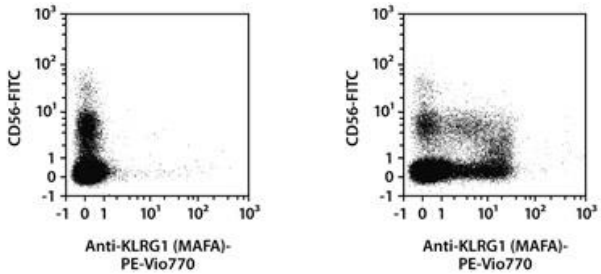
PE-Vio615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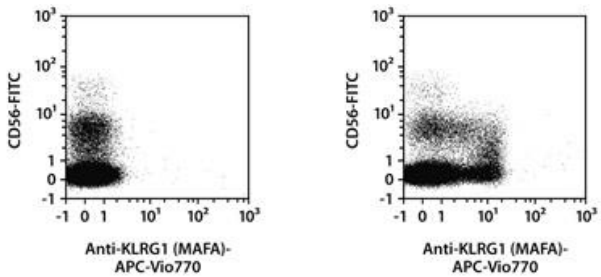
Anti-KLRG1 (MAFA)-
PE-Vio770
CD56-FITC
Anti-KLRG1 (MAFA)-
PE-Vio770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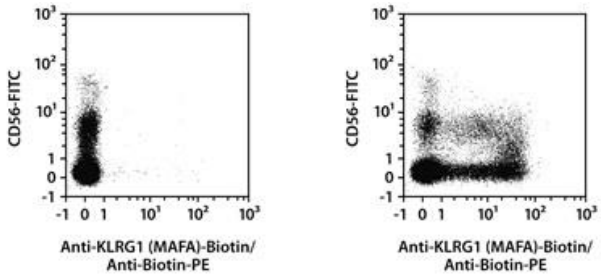
Anti-KLRG1 (MAFA)-
APC-Vio770
CD56-FITC
Anti-KLRG1 (MAFA)-
APC-Vio770




## References

1. **Voehringer, D. *et al.*** (2002) Lack of proliferative capacity of human effector and memory T cells expressing killer cell lectinlike receptor G1 (KLRG1). Blood 100: 3698–3702.
2. **Thimme, R. *et al.*** (2005) Increased expression of the NK cell receptor KLRG1 by virus-specific CD8 T cells during persistent antigen stimulation. J. Virol. 79: 12112–12116.
3. **Butcher, S. *et al.*** (1998) MAFA-L, an ITIM-containing receptor encoded by the human NK cell gene complex and expressed by basophils and NK cells. Eur. J. Immunol. 28(11): 3755–3762.

## Warranty

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