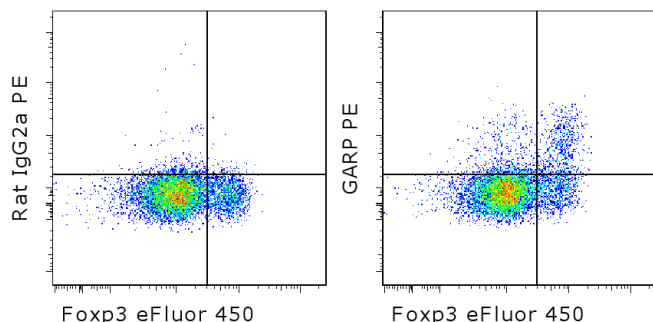


## Anti-Human GARP PE

**Catalog Number:** 12-9882

**Also known as:** LRRC32, Garpin

**RUO: For Research Use Only. Not for use in diagnostic procedures.**



Normal human peripheral blood cells were stimulated with immobilized Anti-Human CD3 Functional Grade Purified (cat. 16-0037), soluble Anti-Human CD28 Functional Grade Purified (cat. 16-0289), and Human IL-2 Recombinant Protein (cat. 14-8029) for 24 hours. Cells were surface stained with Anti-Human CD4 FITC (cat. 11-0049) and Rat IgG2a K Isotype Control PE (cat. 12-4321) (left) or Anti-Human GARP PE (right). Cells were then fixed and permeabilized with the Foxp3 Staining Buffer Set (cat. 00-5523) followed by intracellular staining with Anti-Human Foxp3 eFluor<sup>®</sup> 450 (cat. 48-4776). CD4+ cells in the lymphocyte gate were used for analysis.

### Product Information

**Contents:** Anti-Human GARP PE  
**Catalog Number:** 12-9882  
**Clone:** G14D9  
**Concentration:** 5  $\mu$ L (0.5  $\mu$ g)/test  
**Host/Isotype:** Rat IgG2a, kappa



**Formulation:** aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer  
**Temperature Limitation:** Store at 2-8°C. Do not freeze. Light-sensitive material.  
**Batch Code:** Refer to vial  
**Use By:** Refer to vial  
**Contains sodium azide**

### Description

The G14D9 monoclonal antibody reacts with human Glycoprotein A Repetitions Predominant (GARP, also known as LRRC32 or Garpin). GARP is an approximately 80 kDa glycoprotein that is expressed on the cell surface. Using northern blot, RT-PCR or microarray analyses, the expression of GARP has been reported in placenta, lung, kidney, heart, ovary, liver, skeletal muscle, and pancreas. Protein expression has been observed on megakaryocytes, platelets and activated regulatory T (Treg) cells. The expression of GARP on the surface of activated Treg cells has been reported to be necessary for their suppressive function, possibly related to its role as a cell surface receptor for LAP/TGF beta.

### Applications Reported

This G14D9 antibody has been reported for use in flow cytometric analysis.

### Applications Tested

This G14D9 antibody has been pre-titrated and tested by flow cytometric analysis of stimulated normal human peripheral blood cells. This can be used at 5  $\mu$ L (0.5  $\mu$ g) per test. A test is defined as the amount ( $\mu$ g) of antibody that will stain a cell sample in a final volume of 100  $\mu$ L. Cell number should be determined empirically but can range from  $10^5$  to  $10^8$  cells/test.

### References

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Stockis J, Colau D, Coulie PG, Lucas S. Membrane protein GARP is a receptor for latent TGF-beta on the surface of activated human Treg. *Eur J Immunol.* 2009 Dec;39(12):3315-22.

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## Anti-Human GARP PE

**Catalog Number:** 12-9882

**Also known as:** LRRC32, Garpin

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Wang R, Kozhaya L, Mercer F, Khaitan A, Fujii H, Unutmaz D. Expression of GARP selectively identifies activated human FOXP3+ regulatory T cells. *Proc Natl Acad Sci USA*. 2009 Aug 11;106(32):13439-44.

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Wang R, Wan Q, Kozhaya L, Fujii H, Unutmaz D. Identification of a regulatory T cell specific cell surface molecule that mediates suppressive signals and induces Foxp3 expression. *PLoS One*. 2008 Jul 16;3(7):e2705.

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Ollendorff V, Noguchi T, deLapeyriere O, Birnbaum D. The GARP gene encodes a new member of the family of leucine-rich repeat-containing proteins. *Cell Growth Differ*. 1994 Feb;5(2):213-9.

### Related Products

00-5523 Foxp3 / Transcription Factor Staining Buffer Set  
12-4321 Rat IgG2a K Isotype Control PE (eBR2a)  
14-8029 Human IL-2 Recombinant Protein  
16-0037 Anti-Human CD3 Functional Grade Purified (OKT3)  
16-0289 Anti-Human CD28 Functional Grade Purified (CD28.2)  
25-0049 Anti-Human CD4 PE-Cy7 (RPA-T4)  
48-4776 Anti-Human Foxp3 eFluor<sup>®</sup> 450 (PCH101)

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