

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human LRRC32/GARP in ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse LRRC32 is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 855151
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	recombinant human LRRC32/GARP Accession # Q14392
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human peripheral blood mononuclear cells (PBMCs) stimulated to induce Regulatory T Cells (Tregs) with Anti-CD3, Anti-CD28, Recombinant Human TGF-β1 (Catalog # 240-B), and Recombinant Human IL-2 (Catalog # 202-IL)

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Leucine-rich repeat protein 32 (LRRC32), also known as GARP (glycoprotein A repetitions predominant), is an 80 kDa type I transmembrane glycoprotein (1). Mature human LRRC32 consists of a 608 amino acid (aa) extracellular domain (ECD) that contains 22 leucine-rich repeats, a 21 aa transmembrane segment, and a 14 aa cytoplasmic domain (2, 3). Within the ECD, human LRRC32 shares approximately 80% aa sequence identity with mouse and rat LRRC32. LRRC32 is widely expressed during embryogenesis and on adult platelets (4, 5). Human LRRC32 is identified as a lineage specific key receptor for human T cells. It is selectively expressed on activated FOXP3⁺ regulatory T cells (Treg) (6-10). LRRC32 expression promotes the acquisition of a Treg phenotype including reduced cellular proliferation, reduced cytokine secretion, and the capacity to suppress the proliferation of naïve T cells (6-8). LRRC32 binds directly to the TGF-β latency associated peptide (LAP) and tethers latent TGF-β on the surface of activated Treg cells (9, 10). The presentation of TGF-β on Tregs contributes to their ability to suppress naïve T cell proliferation (11).

References:

- Battaglia, M. and M.G. Roncarolo (2009) Eur. J. Immunol. **39**:3296.
- Ollendorff, V. *et al.* (1994) Cell Growth Differ. **5**:213.
- Bella, J. *et al.* (2008) Cell Mol Life Sci. **65**:2307.
- Roubin, R. *et al.* (1996) Int. J. Dev. Biol. **40**:545.
- Macaulay, I.C. *et al.* (2007) Blood **109**:3260.
- Wang, R. *et al.* (2008) PLoS ONE **3**:e2705.
- Wang, R. *et al.* (2009) Proc. Natl. Acad. Sci. **106**:13439.
- Probst-Kepper, M. *et al.* (2009) J. Cell. Mol. Med. **13**:3343.
- Tran, D.Q. *et al.* (2009) Proc. Natl. Acad. Sci. **106**:13445.
- Stockis, J. *et al.* (2009) Eur. J. Immunol. **39**:3315.
- Vignali, D.A. *et al.* (2008) Nat. Rev. Immunol. **8**:523.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.