Cynomolgus Monkey LAG-3
Alexa Fluor® 594-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2561B
Catalog Number: FAB10395T
100 µg

DESCRIPTION

Species Reactivity	Cynomolgus Monkey
Specificity	Detects cynomolgus monkey LAG-3 in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2561B
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived cynomolgus monkey LAG-3 Val20-Leu450 Accession # XP_005570011.1
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *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	HEK293 Human Cell Line Transfected with Cynomolgus Monkey LAG-3 and eGFP

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.** • 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

LAG-3 (Lymphocyte activation gene-3), designated CD223, is a type I transmembrane protein that is a member of the immunoglobulin superfamily (IgSF) (1, 2). LAG - 3 shares approximately 20% amino acid (aa) sequence homology with CD4, but has similar structure and binds to MHC class II with higher affinity, providing negative regulation of T cell receptor signaling (1, 2). The mature cynomolgus LAG-3 includes an extracellular domain (ECD) with four Ig-like domains, a transmembrane region and a highly charged cytoplasmic region. Within the ECD, cynomolgus LAG-3 shares 92%, 69% and 68% aa sequence identity with human, mouse and rat LAG-3, respectively. LAG-3 is expressed on activated CD4+ and $CD8^+$ T cells, NK cells, and plasmacytoid dendritic cells (pDC), but not on resting T cells (1-3). LAG-3 on activated $CD4^+CD25^+$ Treg cells plays a role in their suppressive activity (4). LAG-3 limits the expansion of activated T cells and pDC in response to selected stimuli (3-5). A soluble 54 kDa form, sLAG-3, can be shed by metalloproteinases ADAM10 and TACE/ADAM17 (6, 7). While monomeric sLAG-3 itself may be inactive, shedding allows for normal T cell activation by removing negative regulation (7). Binding of sLAG-3 to MHC class II molecules induces maturation of immature DC, and secretion of cytokines such as IFN-gamma and TNF-alpha by type 1 cytotoxic $CD8^+$ T cells and NK cells (8, 9). sLAG-3 has been used as a potential adjuvant to stimulate a cytotoxic anti-cancer immune response (9, 10). In mice, deletion of LAG-3 and another negative regulator, PD-1, facilitates anti-cancer response but also blocks self-tolerance and increases susceptibility to autoimmune diseases (11, 12). In humans, antibody-mediated down-regulation of LAG-3 and PD-1 allows more effective control of chronic malaria, while in NOD (non-obese diabetic) mice, deletion of LAG-3 alone accelerates diabetes (12-14). In addition, LAG-3 is an immune checkpoint protein that modulates T-cell activation and homeostasis and is a promising target for cancer immunotherapies (15, 16).

References:

1. Triebel, F. *et al.* (1990) J. Exp. Med. **171**:1393.
2. Baixeras, E. *et al.* (1992) J. Exp. Med **176**:327.
3. Workman, C.J. *et al.* (2004) J. Immunol. **172**:5450.
4. Huang, C.T. *et al.* (2004) Immunity **21**:503.
5. Workman, C.J. *et al.* (2009) J. Immunol. **182**:1885.
6. Li, N. *et al.* (2004) J. Immunol. **173**:6806.
7. Li, N. *et al.* (2007) EMBO J. **26**:494.
8. Andreae, S. *et al.* (2003) Blood **102**:2130.
9. Brignone, C. *et al.* (2007) J. Immunol. **179**:4202.
10. Brignone, C. *et al.* (2010) J. Transl. Med. **8**:71.
11. Woo, S.R. *et al.* (2011) Cancer Res. **72**:917.
12. Okazaki, T. *et al.* (2011) J. Exp. Med. **208**:395.
13. Bettini, M. *et al.* (2011) J. Immunol. **187**:3493.
14. Butler, N.S. *et al.* (2012) Nat. Immunol. **13**:188.
15. Durham N.M. *et al.* (2014) PLoS One. **9**:e109080.
16. Deng W.W. *et al.* (2016) Oncoimmunology. **5**:e1239005

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Cynomolgus Monkey LAG-3 Alexa Fluor® 594-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2561B
Catalog Number: FAB10395T
100 µg

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.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449