Human HVEM/TNFRSF14 Alexa Fluor® 405-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2742B
Catalog Number: FAB3563V
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human HVEM/TNFRSF14 in ELISA.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2742B
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Human embryonic kidney cell HEK293-derived human HVEM/TNFRSF14 Pro37-Val202 Accession # Q92956
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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.*

Flow Cytometry	Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was Human PBMCs

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

HVEM (herpesvirus entry mediator), also known as TNFRSF14 and CD270, is a type I membrane protein in the TNF receptor superfamily, and it can both promote and inhibit T cell activity (1). Mature human HVEM consists of a 164 amino acid (aa) extracellular domain (ECD) with three cysteine-rich domains (CRD), a 21 aa transmembrane segment, and a 60 aa cytoplasmic tail with a TRAF interaction domain (2, 3). Within the ECD, human HVEM shares 55% aa sequence identity with mouse and rat HVEM. Alternative splicing generates an additional isoform with a substitution of the N-terminal 10 amino acids including the signal peptide. HVEM is highly expressed on naïve $CD4^+$ T cells, $CD8^+$ T memory cells, regulatory T cells, dendritic cells, monocytes, and neutrophils (4-8). Its expression declines during effector T cell activation but is up-regulated during Treg activation (4, 5). HVEM functions as a receptor for BTLA, CD160, LIGHT/TNFSF14, and Lymphotoxin-α (4, 9-12). Ligation of HVEM by LIGHT triggers T cell, monocyte, and neutrophil activation (8, 10) and contributes to Th1 inflammation and cardiac allograft rejection (13, 14). In contrast, HVEM binding to CD160 or BTLA suppresses T cell and dendritic cell activation (4, 7, 9, 10) and dampens intestinal inflammation (15). HVEM enhances the development of $CD8^+$ T cell memory and Treg function (5, 6). It is additionally expressed on intestinal epithelial cells, where its binding by intraepithelial lymphocyte (IEL) expressed CD160 promotes epitheilal integrity and host defense (16). The herpesvirus envelope glycoprotein gD, which binds HVEM to initiate membrane fusion, can antagonize both BTLA and LIGHT binding (2, 9, 11).

References:

1. del Rio, M.L. *et al.* (2010) J. Leukoc. Biol. **87**:223.
2. Montgomery, R.I. *et al.* (1996) Cell **87**:427.
3. Hsu, H. *et al.* (1997) J. Biol. Chem. **272**:13471.
4. Sedy, J. R. *et al.* (2005) Nat. Immunol. **6**:90.
5. Tao, R. *et al.* (2008) J. Immunol. **180**:6649.
6. Steinberg, M.W. *et al.* (2013) PLoS One **8**:e77992.
7. de Trez, C. *et al.* (2008) J. Immunol. **180**:238.
8. Heo, S.K. *et al.* (2006) J. Leukoc. Biol. **79**:330.
9. Gonzalez, L.C. *et al.* (2005) Proc. Natl. Acad Sci. USA **102**:1116.
10. Cai, G. *et al.* (2008) Nat. Immunol. **9**:176.
11. Mauri, D.N. *et al.* (1998) Immunity **8**:21.
12. Harrop, J.A. *et al.* (1998) J. Biol. Chem. **273**:27548.
13. Wang, J. *et al.* (2005) J. Immunol. **174**:8173.
14. Ye, Q. *et al.* (2002) J. Exp. Med. **195**:795.
15. Steinberg, M.W. *et al.* (2008) J. Exp. Med. **205**:1463.
16. Shui, J.W. *et al.* (2012) Nature **488**:222.

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

Human HVEM/TNFRSF14 Alexa Fluor® 405-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2742B
Catalog Number: FAB3563V
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