Human VSIG4
Alexa Fluor® 350-conjugated Antibody

Monoclonal Rabbit IgG Clone # 2174B
Catalog Number: FAB46461U
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human VSIG4 in Western blots.
Source	Monoclonal Rabbit IgG Clone # 2174B
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived human VSIG4 Arg20-Pro283 Accession # Q9Y279
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 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	Human CD14+ PBMCs (Catalog # MAGH105) cultured with 50 ng/ml recombinant human M-CSF (Catalog # 216-MC) and 10 µM Hydrocortisone (Catalog # 4093) for 7 days to generate macrophages

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

VSIG4 (Vset and immunoglobulin domain containing 4), also known as complement receptor immunoglobulin (CRIg) and Z39IG, is a 45 kDa, type I transmembrane protein of the B7 family within the Ig superfamily that is expressed only in tissue resident macrophages (1-4). The gene is located on the X chromosome (2). The human VSIG4 cDNA encodes 399 amino acids (aa) including a 19 aa signal sequence, a 264 aa extracellular domain (ECD) containing a V-type and a C2-type Ig domain, a 21 aa transmembrane domain and a 95 aa cytoplasmic domain (3). The human VSIG4 ECD shares 84% aa identity with canine VSIG4. Within the IgV domain, it shares 90%, 80% and 78% aa identity with bovine, mouse and rat VSIG4, respectively; these animals lack the C2-type domain. Splice isoforms of 321, 305, 272, 201 and 199 aa lack all or part of the cytoplasmic domain, the C2-type Ig domain and/or the transmembrane domain (5). VSIG4 is specifically expressed on macrophages in the thymic medulla, peritoneum, alveoli, synovia, adipose and heart, liver Kupffer cells, placental Hofbauer cells, and atherosclerotic foam cells (1-4, 6-9). It is absent on infiltrating macrophages (8). VSIG4 is a complement receptor that binds C3b and iC3b fragments, internalizes them to recycling endosomes, and is recycled to the cell surface (4, 6). It contributes significantly to innate immunity by binding and phagocytosis of complement opsonized invading pathogens (4, 8, 10). Binding of either native or recombinant soluble VSIG4 to C3b inhibits complement amplification through the alternative, but not classical, pathway (10, 11). VSIG4 is also a negative regulator of mouse and human T cell activation (2). Although VSIG4 engagement may activate NFκB and thus be proinflammatory in some cases, many of its activities are important in resolving, rather than initiating, inflammation (1, 2, 7, 10, 11). There is emerging evidence in human conditions that VSIG4 may be a valuable biomarker in infection and immunity, inflammatory conditions and cancer prognosis (12, 13, 14).

References:

1. He, J.Q. *et al.* (2008) Mol. Immunol. 4041.
2. Vogt, L. *et al.* (2006) J. Clin. Invest. **116**:2817.
3. Langnaese, K. *et al.* (2000) Biochim. Biophys. Acta **1492**:522.
4. Helmy, K. *et al.* (2006) Cell **124**:915.
5. Entrez protein Accession # EAX05393, NP_001093901, CAI42052, CAI4205, EAX05394.
6. Tanaka, M. *et al.* (2008) Clin. Exp. Immunol. **154**:38.
7. Lee, M.Y. *et al.* (2006) J. Leukoc. Biol. **80**:922.
8. Gorgani, N.N. *et al.* (2008) J. Immunol. **181**:7902.
9. Walker, M.G. (2002) Biochim. Biophys. Acta **1574**:387.
10. Wiesmann, C. *et al.* (2006) Nature **444**:217.
11. Katschke, K.J. *et al.* (2007) J. Exp. Med. **204**:1319.
12. Small, A.G. *et al.* (2016) Swiss Med Wkly. **5**:146.
13. Roh J. *et al.* (2017) Oncotarget. **8**:58122.
14. Kim K.H. *et al.* (2016) Autophagy. **12**:1647.

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 VSIG4
Alexa Fluor® 350-conjugated Antibody

Monoclonal Rabbit IgG Clone # 2174B
Catalog Number: FAB46461U
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