Human VSIG4
Alexa Fluor® 647-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 528903

Catalog Number: FAB4646R

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human VSIG4 in direct ELISAs.
Source	Monoclonal Mouse IgG_{2A} Clone # 528903
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived human VSIG4 protein Arg20-Pro283 Accession # Q9Y279
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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 PBMC-derived 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:

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