Human JAM-B/VE-JAM
Alexa Fluor® 405-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 988901

Catalog Number: FAB10742V

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human JAM-B/VE-JAM in direct ELISAs.
Source	Monoclonal Mouse IgG_{2B} Clone # 988901
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human JAM-B/VE-JAM Phe29-Asn236 Accession # P57087
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. 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	HEK293 Human Cell Line Transfected with JAM-B 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

The family of juctional adhesion molecules (JAM), comprising at least three members, are type I transmembrane receptors belonging to the immunoglobulin (Ig) superfamily (1, 2). These proteins are localized in the tight junctions between endothelial cells or epithelial cells. Some family members are also found on blood leukocytes and platelets. JAM-B, alternatively named vascular endothelial JAM (VE-JAM), is expressed prominently on high endothelial venules of lymphoid organs where it is localized to the intercellular boundaries of high endothelial cells. It is also expressed on the endothelium of a variety of non-lymphoid organs, especially the heart and placenta (3, 5). Human JAM-B cDNA predicts a 298 amino acid (aa) precursor protein with a putative 28 aa signal peptide, a 209 aa extracellular region containing two Ig domains, a 23 aa transmembrane domain and a 38 aa cytoplasmic domain containing a PDZ-binding motif and a PKC phosphorylation site. Human JAM-B shares approximately 79% aa sequence homology with its mouse homologue. It also shares approximately 35% aa sequence homology with human JAM-A or JAM-C. JAM-B exhibits homotypic interactions, as well as heterotypic interactions with JAM-C, but not JAM-A (4, 5, 7). It is also a ligand for the Integrin $\alpha_4\beta_1$. However, the JAM-B/$\alpha_4\beta_1$ interaction is facilitated only after prior adhesion of JAM-B to JAM-C (6). Through its heterotypic interactions with JAM-C, JAM-B is an adhesive ligand for T, NK, and dendritic cells, and may play a role in regulating leukocyte transmigration (5).

The nomenclature used for the JAM family proteins is confusing. VE-JAM has been referred in the literature variously as JAM-B or JAM-3. Until further clarification, R&D Systems has adopted the nomenclature where both mouse and human VE-JAM are referred to as JAM-B.

References:

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4. Cunnigham, S. *et al.* (2000) J. Biol. Chem. **275**:34750.
5. Liang, T. *et al.* (2002) J. Immunol. **168**:1618.
6. Cunningham, A. *et al.* (2002) J Biol. Chem. **277**:27589.
7. Arrate, M. *et al.* (2001) J. Biol. Chem. **276**:45826.

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