Human JAM-A Antibody

Monoclonal Mouse IgG_1 Clone # 654806

Catalog Number: MAB1103

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human JAM-A in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) JAM-B, recombinant mouse (rm) JAM-A, or rmJAM-4 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 654806
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human JAM-A Ser28-Ala242 (predicted) Accession # Q9Y624
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

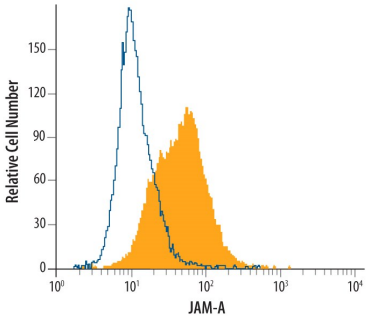
APPLICATIONS

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 µg/10^6 cells	See Below
Immunocytochemistry	8-25 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

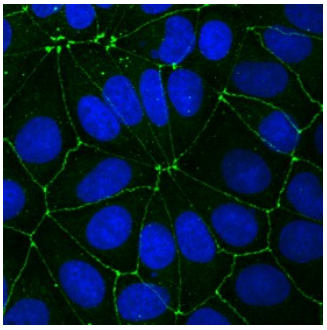
DATA

Flow Cytometry



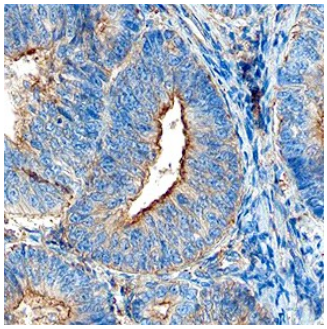
Detection of JAM-A in MCF-7 Human Cell Line by Flow Cytometry. MCF-7 human breast cancer cell line was stained with Human JAM-A Monoclonal Antibody (Catalog # MAB1103, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG $F(ab')_2$ Secondary Antibody (Catalog # F0102B).

Immunocytochemistry



JAM-A in MCF-7 Human Cell Line. JAM-A was detected in immersion fixed MCF-7 human breast cancer cell line using Mouse Anti-Human JAM-A Monoclonal Antibody (Catalog # MAB1103) at 20 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 493-conjugated Anti-Mouse IgG Secondary Antibody (green; Catalog # NL009) and counterstained with DAPI (blue). Specific staining was localized to intercellular junctions. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunohistochemistry



JAM-A in Human Endometrial Cancer Tissue. JAM-A was detected in immersion fixed paraffin-embedded sections of human endometrial cancer tissue using Human JAM-A Monoclonal Antibody (Catalog # MAB1103) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to the plasma membrane of glandular epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

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Catalog Number: MAB1103

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The family of junctional 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 or epithelial cells. Some family members are also found on blood leukocytes and platelets. Human JAM-A, also known as platelet adhesion molecule 1 (PAM-1) and platelet F11 receptor (3), is predominantly expressed at intercellular junctions of both epithelial cells and endothelial cells (1 - 4). It is also expressed on circulating blood cells including neutrophils, monocytes, platelets, erythrocytes and lymphocytes (5). Human JAM-A cDNA predicts a 299 amino acid (aa) residue precursor protein with a putative 27 aa signal peptide, a 210 aa extracellular region containing two Ig-like V-subset domains, a 24 aa transmembrane domain and a 38 aa cytoplasmic domain. The human and mouse proteins share approximately 67% aa sequence homology. Human JAM-A also shares approximately 35% and 32% aa sequence homology with human JAM-B and JAM-C, respectively. JAM-A exhibits homophilic interactions to regulate tight junction assembly and modulate paracellular permeability. This homophilic interation also mediates platelet aggregation and adhesion to endothelial cells and may play a role in thrombosis (3). JAM-A binds heterotypically with the β2 integrin lymphocyte function-associated antigen-1 (LFA-1). This JAM-A-LFA-1 interaction is involved in leukocyte adhesion and transmigration (6). JAM-A has also been shown to bind reovirus attachment protein sigma-1 to permit reovirus infection and signal virus-induced apoptosis (7).

References:

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