

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human AMICA/JAML in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse AMICA is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 401901
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human AMICA/JAML Leu20-Leu275 Accession # Q86YT9
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. 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	Human whole blood monocytes

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. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

AMICA (adhesion molecule, interacting with CXADR antigen 1), also known as JAML, is a 65 kDa, heavily glycosylated transmembrane protein that belongs to the junctional adhesion molecule (JAM) subset of the immunoglobulin superfamily (1). JAM family molecules contribute to intercellular connections within epithelial and endothelial cell layers, and mediate their interactions with various hemopoietic cells (1). The human AMICA cDNA encodes a 384 amino acid (aa) precursor that includes a 19 aa signal sequence, a 256 aa extracellular domain (ECD) with two Ig-like domains, a 21 aa transmembrane segment, and a 98 aa cytoplasmic domain (2). Alternative splicing may generate isoforms with N- and C-terminal deletions. In contrast to other JAM family proteins, AMICA does not contain a cytoplasmic PDZ-binding motif (3). Within the ECD, human AMICA shares 58% and 63% aa sequence identity with mouse and rat AMICA, respectively. It shares 18%-20% aa sequence identity with the ECDs of human JAM-A, -B, -C, and JAM4. AMICA is expressed on the surface of granulocytes and monocytes and is upregulated during the differentiation of myeloid leukemia cells (2, 3). A motif in the ECD, which promotes dimerization of other JAM family proteins, is required for surface localization of AMICA (2). AMICA mediates the adhesion of monocytes to endothelial cells (2) and neutrophil migration across epithelial cell monolayers (3). This latter function involves specific interactions of AMICA with the coxsackie virus and adenovirus receptor (CXADR) in epithelial tight junctions (3). In particular, the membrane proximal Ig-like domain of AMICA binds the membrane-distal Ig-like domain of CXADR (3). AMICA does not appear to interact homophilically, as neutrophils adhere to immobilized CXADR but not to immobilized AMICA (3).

References:

1. Mandell, K.J. and C.A. Parkos (2005) *Adv. Drug Deliv. Rev.* **57**:857.
2. Moog-Lutz, C. *et al.* (2003) *Blood* **102**:3371.
3. Zen, K. *et al.* (2005) *Mol. Biol. Cell* **16**:2694.

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