

ICAM-1/CD54 Protein, Rat (HEK293, Fc)

Cat. No.:	HY-P73909
Synonyms:	Intercellular Adhesion Molecule 1; ICAM-1; CD54
Species:	Rat
Source:	HEK293
Accession:	Q00238 (Q28-T493)
Gene ID:	25464
Molecular Weight:	Approximately 77.6 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	ICAM-1/CD54 protein serves as a pivotal ligand for the leukocyte adhesion protein LFA-1 (integrin alpha-L/beta-2), playing a critical role in diverse cellular interactions. Specifically, during leukocyte trans-endothelial migration, engagement of ICAM-1 promotes the assembly of endothelial apical cups through the activation of ARHGEF26/SGEF and RHOG. This intricate molecular process, reminiscent of other ICAM family members, underscores ICAM-1's involvement in regulating immune responses and inflammatory reactions. Beyond its role in leukocyte adhesion, ICAM-1 forms homodimers and interacts with MUC1, facilitating cell aggregation in epithelial cells. Furthermore, ICAM-1 engages with ARHGEF26/SGEF and interacts on the T cell side with CD81, CD247, and CD9, contributing to the establishment of immunological synapses between antigen-presenting cells and T cells. These versatile interactions highlight the multifaceted functions of ICAM-1 in cellular adhesion and immune modulation.
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Caution: Product has not been fully validated for medical applications. For research use only.

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