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Mouse sICAM-1 ELISA Kit

产品编号: bsk12055
种属: Mouse
线性范围: 125-8000pg/mL
应用范围: S/P/CC
检测限: 60pg/mL
适用样品基质: cell culture supernates, serum, and plasma.
保存条件: Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles (Shipped with wet ice.).
产品介绍: Intercellular Adhesion Molecule-1 (ICAM-1) is an inducible transmembrane molecule that plays a role in cell migration, antigen presentation and leukocyte activation. When ligated to its principal counter-receptor, LFA-1, ICAM-1 can play three different roles. First, it provides anchorage to cells expressing LFA-1. During inflammation, endothelial cells (EC) expressing ICAM-1 mediate the adhesion and transendothelial migration of circulating LFA-1+ leukocytes. In addition, antigen presenting cell (APC) ICAM-1 and T cell LFA-1 can create an adhesive interface that prolongs effective antigen presentation under limiting antigen concentrations. Second, ICAM-1 is a receptor that transduces signals on ICAM-1 expressing cells. EC ICAM-1 transmits signals that activate intracellular Rho, leading to cytoskeleton rearrangement and EC contraction. On T cells, ICAM-1 activation, in conjunction with CD3 engagement, induces naive T cell proliferation and Th1 (IL-2/IFN-γ) cytokine release. Third, ICAM-1 is a ligand that can activate specific LFA-1 mediated activities. These include the generation of cytokine-secreting inflammatory effector CD4+ T cells, and the trans-activation (modulation) of tyrosine kinase growth factor receptors following integrin ligation and clustering. Mouse ICAM-1 is an 80-110 kDa, type I transmembrane glycoprotein that is expressed on a variety of cell types. The molecule is 537 amino acids (aa) in length and contains a 27 aa signal sequence, a 458 aa extracellular region, a 24 aa transmembrane segment, and a 28 aa cytoplasmic domain. The extracellular region contains five Ig-like domains and eleven potential N-linked glycosylation sites, many of which are utilized. The first, N-terminal Ig domain (D1) binds LFA-1, while the third domain (D3) binds Mac-1. Notably, glycosylation on the third domain regulates Mac-1 binding. The cytoplasmic domain, while short, is considered to both transduce intracellular signals (via MAP kinase) and interact with the cell cytoskeleton. Membrane ICAM-1 exists as a dimer and will form multimers via D1 interactions. Monomeric ICAM-1 is competent to bind LFA-1. Soluble, dimeric ICAM-1 does circulate and binds LFA-1 with high avidity. Soluble forms are generated via proteolytic processing, reportedly through MMP-9 and elastase. In mice, there

are a number of ICAM-1 alternate splice forms that lack combinations of various Ig-domains. This suggests the possibility of multiple truncated forms of proteolytically-generated circulating ICAM-1. Mature mouse ICAM-1 shares 77%, 53%, 56%, and 52% sequence identity to rat, human, canine and porcine ICAM-1, respectively. Cells known to express ICAM-1 include smooth muscle cells, keratinocytes, endothelial cells, fibroblasts, bronchial epithelial cells, memory T cells, B cells, plasma cells, monocytes, macrophages, CFU-E, CFU-GM, activated eosinophils, neutrophils, Schwann cells, Sertoli cells, melanocytes, and dendritic cells.