CRACC/SLAMF7 Protein, Human (204a.a, HEK293, His)

Cat. No.:	HY-P72460
Synonyms:	SLAM Family Member 7; CD2 Subset 1; CRACC; CD319; SLAMF7; CS1
Species:	Human
Source:	HEK293
Accession:	Q9NQ25 (S23-M226)
Gene ID:	57823
Molecular Weight:	Approximately 39 kDa

PROPERTIES

AA Sequence	S G P V K E L V G S V G G A V T F P L K S K V K Q V D S I V W T F N T T P L V T I Q P E G G T I I V T Q N R N R E R V D F P D G G Y S L K L S K L K K N D S G I Y Y V G I Y S S S L Q Q P S T Q E Y V L H V Y E H L S K P K V T M G L Q S N K N G T C V T N L T C C M E H G E E D V I Y T W K A L G Q A A N E S H N G S I L P I S W R W G E S D M T F I C V A R N P V S R N F S S P I L A R K L C E G A A D D P D S S M
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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	The CRACC/SLAMF7 protein, as a self-ligand receptor within the signaling lymphocytic activation molecule (SLAM) family, participates in homo- or heterotypic cell-cell interactions that modulate the activation and differentiation of various immune cells, intricately contributing to the regulation and interconnection of both innate and adaptive immune responses. The protein's activities are finely tuned by the presence or absence of small cytoplasmic adapter proteins, including SH2D1A/SAP and/or SH2D1B/EAT-2. Specifically, isoform 1 of CRACC/SLAMF7 mediates NK cell activation through a SH2D1A-independent extracellular signal-regulated ERK-mediated pathway, positively regulating NK cell functions in a mechanism

dependent on phosphorylated SH2D1B. Downstream signaling involves PLCG1, PLCG2, and PI3K. Additionally, homotypic interactions between NK cells may contribute to activation, but in the absence of SH2D1B, CRACC/SLAMF7 inhibits NK cell function. The protein also acts as an inhibitory factor in T-cells and may play a role in lymphocyte adhesion. In LPS-activated monocytes, it negatively regulates the production of pro-inflammatory cytokines. However, isoform 3 of CRACC/SLAMF7 does not mediate any NK cell activation, indicating isoform-specific functional differences in immune modulation.

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