

CLEC4E Protein, Human (HEK293, His)

Cat. No.:	HY-P70118
Synonyms:	rHuC-Type Lectin Domain Family 4 Member E/CLEC4E, His; C-Type Lectin Domain Family 4 Member E; C-Type Lectin Superfamily Member 9; Macrophage-Inducible C-Type Lectin; CLEC4E; CLECSF9; MINCLE
Species:	Human
Source:	HEK293
Accession:	Q9ULY5 (R41-L219)
Gene ID:	26253
Molecular Weight:	Approximately 26.0 kDa

PROPERTIES

AA Sequence	<pre> R C V V T F R I F Q T C D E K K F Q L P E N F T E L S C Y N Y G S G S V K N C C P L N W E Y F Q S S C Y F F S T D T I S W A L S L K N C S A M G A H L V V I N S Q E E Q E F L S Y K K P K M R E F F I G L S D Q V V E G Q W Q W V D G T P L T K S L S F W D V G E P N N I A T L E D C A T M R D S S N P R Q N W N D V T C F L N Y F R I C E M V G I N P L N K G K S L </pre>
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.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. 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	<p>CLEC4E Protein is a calcium-dependent lectin that serves as a pattern recognition receptor (PRR) in the innate immune system. It is responsible for detecting and binding to damage-associated molecular patterns (DAMPs) of abnormal self and pathogen-associated molecular patterns (PAMPs) found in bacteria and fungi. Notably, it can recognize mycobacterial trehalose 6,6'-dimycolate (TDM), a glycolipid with potent immunomodulatory functions. In myeloid cells, CLEC4E interacts with the signaling adapter Fc receptor gamma chain/FCER1G to form a functional complex. Binding of TDM to this receptor complex triggers phosphorylation of the immunoreceptor tyrosine-based activation motif (ITAM) of FCER1G, leading to activation of SYK, CARD9, and NF-kappa-B. This ultimately drives the maturation of antigen-presenting cells and shapes</p>
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antigen-specific priming of T-cells towards effector T-helper 1 and T-helper 17 cell subtypes. CLEC4E also recognizes alpha-mannose residues on pathogenic fungi, such as Malassezia, and mediates macrophage activation. Additionally, CLEC4E enables immune sensing of damaged self by recognizing DAMPs released during nonhomeostatic cell death, thereby promoting inflammatory cell infiltration into the damaged tissue. CLEC4E can exist as a monomer or homodimer and interacts directly with FCER1G to form a functional complex. Alternatively, it acts as a bridge for interaction between CLEC4D and FCER1G. Furthermore, CLEC4E can directly interact with SAP130 nuclear protein, which is released from necrotic cells.

Caution: Product has not been fully validated for medical applications. For research use only.

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