Lymphocyte antigen 6E/LY6E Protein, Human (His-SUMO)

Cat. No.:	HY-P71539
Synonyms:	LY6E; 9804; RIGE; SCA2; TSA1; Lymphocyte antigen 6E; Ly-6E; Retinoic acid-induced gene E protein; RIG-E; Stem cell antigen 2; SCA-2; Thymic shared antigen 1; TSA-1
Species:	Human
Source:	E. coli
Accession:	Q16553 (21L-101S)
Gene ID:	4061
Molecular Weight:	Approximately 24.5 kDa

PROPERTIES

AA Sequence	L M C F S C L N Q K S N L Y C L K P T I C S D Q D N Y C V T V S A S A G I G N L V T F G H S L S K T C S P A C P I P E G V N V G V A S M G I S C C Q S F L C N F S
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
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.
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	LY6E, a glycosylphosphatidylinositol (GPI)-anchored cell surface protein, serves as a key regulator of T-lymphocyte proliferation, differentiation, and activation. Functionally, it modulates T-cell receptor (TCR) signaling by interacting with the CD3Z/CD247 component at the plasma membrane, thereby influencing the phosphorylation status of CD3Z/CD247. Additionally, LY6E plays a critical role in restricting the entry of human coronaviruses, including SARS-CoV, MERS-CoV, and SARS-CoV-2, by disrupting spike protein-mediated membrane fusion. Notably, it acts as the primary receptor for syncytin-A (SynA), contributing to placenta formation by facilitating the fusion of syncytiotrophoblast layer I (SynT-I) and ensuring proper morphogenesis of fetal and maternal vasculatures within the placenta. Furthermore, LY6E may function as a modulator of nicotinic acetylcholine receptors (nAChRs) activity. In the context of microbial infection, LY6E both facilitates and restricts viral entry, enhancing the fusion process for various viruses, including HIV-1, West Nile virus, dengue virus, and Zika virus, while being dispensable for the paramyxovirus PIV5 that enters at the plasma membrane. Mechanistically, LY6E

	adopts a microtubule-like organization upon viral infection, contributing to enhanced viral uncoating following endosomal escape.

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