

DESCRIPTION

| | | | |
|-------------------------------------|--|--------|---|
| Source | Human embryonic kidney cell, HEK293-derived human Ly6E protein | | |
| | Human LY6E (Leu21-Ser101) Accession # Q16553 | IEGRMD | Human IgG ₁ (Pro100-Lys330) |
| | N-terminus | | C-terminus |
| N-terminal Sequence Analysis | Leu21 | | |
| Structure / Form | Disulfide-linked homodimer | | |
| Predicted Molecular Mass | 35 kDa | | |

SPECIFICATIONS

| | |
|------------------------|--|
| SDS-PAGE | 37-47 kDa, reducing conditions |
| Activity | Measured by its ability to inhibit anti-CD3 antibody induced IL-2 or IFN-gamma secretion by human T cells. The ED ₅₀ for this effect 1-7.5 µg/mL. |
| Endotoxin Level | <0.10 EU per 1 µg of the protein by the LAL method. |
| Purity | >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining. |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. |

PREPARATION AND STORAGE

| | |
|--------------------------------|---|
| Reconstitution | Reconstitute at 200 µg/mL in PBS. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | <p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

DATA

| | |
|---|---|
| <p>Bioactivity</p> <p>Recombinant Human Ly6E Fc Chimera (Catalog # 9970-L6) inhibits anti-CD3 antibody induced IFN-gamma secretion by human T cells. The ED₅₀ for this effect is 1-7.5 µg/mL.</p> | <p>SDS-PAGE</p> <p>2 µg/lane of Recombinant Human Ly6E Fc Chimera was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 37-47 kDa and 70-90 kDa, respectively.</p> |
|---|---|

BACKGROUND

Ly6E (Lymphocyte antigen 6E), also known as Stem cell antigen 2 (SCA-2) or Thymic shared antigen-1 (TSA-1), is a member of the lymphostromal cell membrane Ly6 protein superfamily (1, 2). There are at least twenty different human Ly6 proteins that have been identified, ranging from 11 to 36 kDa. These are classified as either secreted, or membrane-bound proteins which have the GPI-anchor signaling sequence. Included in the GPI-anchored cell surface glycoproteins are Ly6A-I and Ly6K (2-4). Human Ly6E is synthesized as a 131 amino acid (aa) protein that includes a 20 aa signal peptide, an 81 aa Ly6E chain, and a 30 aa propeptide. Within the main chain region, human Ly6E shares 55% and 57% aa sequence identity with mouse and rat Ly6E, respectively. Ly6E is involved in cell signalling transduction, cell adhesion, immune regulation and drug resistance, and is over-expressed in human malignancies, including head and neck squamous cell carcinomas and lung, and oesophageal cancers (4-7). Moreover, Ly6E over-expresses in gastric cancer cells, and is important for cell survival, proliferation and migration, and could be a novel oncogenic protein for efficient diagnosis and treatment of gastric cancer (2). LY6E has recently been shown to promote viral entry of some flaviviruses, including West Nile virus, Dengue virus, and Zika virus (8).

References:

1. Gumley, T.P. *et al.* (1995) *Immunol. Cell Biol.* **73**:277.
2. Lv, Y. *et al.* (2018) *Cell. Physiol. Biochem.* **45**:1219.
3. Kong, H.K. and J.H. Park. (2012) *BMB Rep.* **45**:595.
4. Luo, L. *et al.* (2016) *Oncotarget* **7**:11165.
5. Yeom, C.J. *et al.* (2016) *Oncotarget* **7**:65837.
6. AlHossiny M. *et al.* (2016) *Cancer Res.* **76**:3376.
7. Asundi J. *et al.* (2015) *Clin Cancer Res.* **21**:3252.
8. Mar K.B. *et al.* (2018) *Nat Commun.* **9**:3603.