Product Name: Human Siglec 14 Protein Dimer, His Tag

Product Code: CSP-25210-01

FOR RESEARCH USE ONLY (RUO)

Protein Name: Siglec 14

Alternate Name(s): Siglec-14

Expression Host
HEK293T

Amino Acid Range
E17-L358

Protein Construct
Siglec 14 dimer protein contains a Siglec 14 extracellular domain (UniProt# Q08ET2) fused with a proprietary cis-dimer motif followed by a His tag at the C-terminus. Expressed in HEK293T cell line.

SDS-Page Molecular Weight
92 kDa. The migration range of the heterodimer protein with glycosylation under non-reducing condition is between 120 and 190 kDa on SDS PAGE.

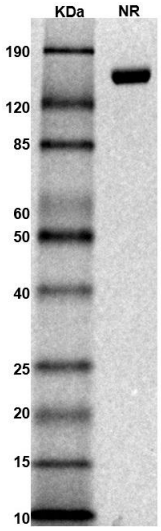
Purity
Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition

Formulation
0.22µm filtered PBS, pH 7.4

Stability & Storage
-80^{0}C

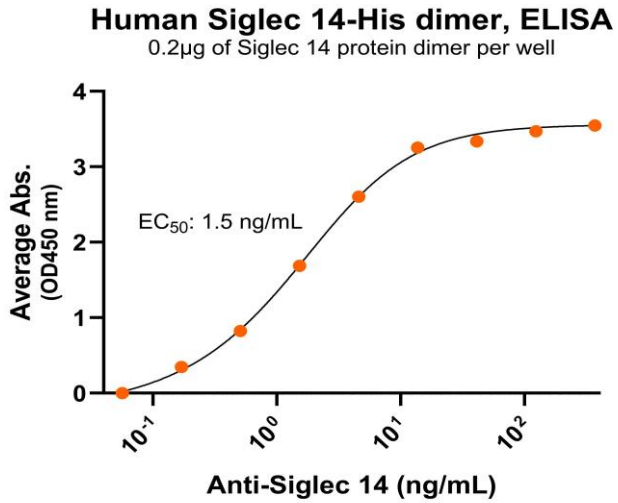
Shipping Conditions
Frozen Dry Ice

SDS-PAGE



MW: Molecular Weight marker reduced condition
NR: Siglec 14 dimer under non-reduced condition
The migration range of the heterodimer protein with glycosylation under non-reducing condition is between 120 and 190 kDa on SDS PAGE.

Antibody Binding



Immobilized human Siglec 14 protein dimer, His tag (Cat. No. CSP-25210-01) at 2 μg/mL can bind anti-human Siglec 14 monoclonal antibody with half maximal effective concentration (EC50) range of 0.7-2.9 ng/mL (QC tested).

Background

Human sialic acid-binding Ig-like lectin 14 (Siglec 14, Siglec-14) is a member of the sialic acid-binding immunoglobulin-like lectin (Siglec) family. Siglec 14 is part of the immunoglobulin superfamily, and a multifunctional immune regulator in the innate immune system. Siglec 14 is a Type I transmembrane protein and can form homodimers on the cell surface. It contains an extracellular domain with three immunoglobulin-like (Ig-like) domains followed by a transmembrane domain and cytoplasmic signaling domain. The Siglec 14 cytoplasmic signaling domain lacks the typical immunoreceptor tyrosine-based inhibitory motif (ITIM) of other Siglecs, instead containing a positively charged “essential arginine” critical for interaction with adaptor molecules DAP10 and DAP12. When bound to DAP10 or DAP12, Siglec 14 activates cellular pathways while Siglec 5 inhibits them. Siglec 14 and Siglec 5 colocalize and are “paired receptors” meaning they show high mutual sequence similarity and have antagonizing signaling activities. Siglec 14 is expressed on myeloid cells and binds sialylated glycans on cell surfaces or secreted proteins, modulating cell-cell interactions and immune responses. Siglec 14 recognizes bacterial pathogens and elicits pro-inflammatory responses.