

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse Siglec-15 protein		
	Mouse Siglec-15 (Arg24-Tyr250) Accession # NP_001094508.1	IEGRMDP	Mouse IgG _{2a} (Glu98-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Arg24		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	52 kDa		

SPECIFICATIONS

SDS-PAGE	57-64 kDa
Activity	Measured by its ability to inhibit IL-2 secretion by mouse T cells in the presence of anti-CD3. The ED ₅₀ for this effect is 1-6 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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

Bioactivity

Recombinant Mouse Siglec-15 Fc Chimera (Catalog # 10101-SL) inhibits IL-2 secretion by mouse T cells in the presence of Rat Anti-Mouse CD3 Monoclonal Antibody (Catalog # MAB4841). The ED₅₀ for this effect is 1-6 µg/mL.

SDS-PAGE

2 µg/lane of Recombinant Mouse Siglec-15 Fc Chimera (Catalog # 10101-SL) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 57-64 kDa and 110-130 kDa, respectively.

BACKGROUND

Siglec-15 is a transmembrane glycoprotein in the Siglec family of sialic acid-binding immune regulatory molecules (1). Mature mouse Siglec-15 consists of a 239 amino acid (aa) extracellular domain (ECD) with two Ig-like domains, a 21 aa transmembrane segment, and a 59 aa cytoplasmic domain. Within the ECD, mouse Siglec-15 shares 85% and 92% aa sequence identity with human and rat Siglec-15, respectively. In human Siglec-15, alternative splicing generates an additional isoform that lacks the signal peptide and first Ig-like domain. Siglec-15 associates with the signaling molecules DAP12 and DAP10 (2-5). It is expressed on osteoclasts, macrophages, and dendritic cells (2-6) and binds to the sialyl-Tn antigen (2, 3, 6). This interaction induces the production of TGF-beta by tumor-associated macrophages (3). Siglec-15 function is important for osteoclast formation and TRANCE/RANK Ligand signaling in osteoclasts (4-6). Siglec-15 is broadly upregulated on human cancer cells and tumor infiltrating myeloid cells (7). Siglec-15 suppresses antigen-specific T cell responses *in vitro* and *in vivo* therefore it is considered to be an immune suppressor and potential target for normalization cancer immunotherapy (7).

References:

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3. Takamiya, R. *et al.* (2013) Glycobiology **23**:178.
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