

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived		
	Human CD52 (Gly25-Ser36) Accession # P31358	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus

N-terminal Sequence Analysis	Gly25
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	28 kDa

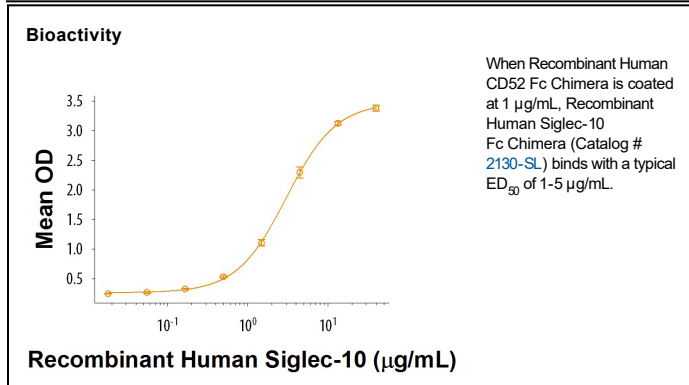
SPECIFICATIONS

SDS-PAGE	38 - 44 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD52 Fc Chimera is immobilized at 1 µg/mL, 100 µL/well, the concentration of Recombinant Human Siglec-10 Fc Chimera (Catalog # 2130-SL) that produces 50% of the optimal binding response is approximately 1-5 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. 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



BACKGROUND

CD52, also known as CAMPATH-1 antigen, HE5, and gp20, is a cell surface glycoprotein that can be targeted to induce immune suppression by complement-mediated cell lysis (1, 2). Mature human CD52 is a 12 amino acid peptide that is tethered to the cell surface with a GPI linkage (3). It carries a large tissue-specific carbohydrate structure which increases the molecular weight of CD52 to 15-20 kDa (3-5). CD52 is expressed on lymphocytes, monocytes, monocyte-derived dendritic cells, eosinophils, and neutrophils (6-8), as well as on mature spermatozoa and epithelial cells lining the male genital tract (5, 9, 10). It protects sperm against anti-sperm antibodies by binding to C1q and inhibiting complement activation (11). CD52 ligation on CD4+ T cells induces a suppressive population of cells that release soluble CD52 which then binds to Siglec-10 (12-14). This interaction inhibits the proliferation of activated T cells and the cytotoxic function of autoimmune CD8+ T cells in type 1 diabetes (13).

References:

1. Morris, P.J. and N.K. Russell (2006) *Transplantation* **81**:1361.
2. Redpath, S. *et al.* (1998) *Immunology* **93**:595.
3. Xia, M.Q. *et al.* (1991) *Eur. J. Immunol.* **21**:1677.
4. Treumann, A. *et al.* (1995) *J. Biol. Chem.* **270**:6088.
5. Schroter, S. *et al.* (1999) *J. Biol. Chem.* **274**:29862.
6. Ratzinger, G. *et al.* (2003) *Blood* **101**:1422.
7. Elsner, J. *et al.* (1996) *Blood* **88**:4684.
8. Ambrose, L.R. *et al.* (2009) *Blood* **114**:3052.
9. Focarelli, R. *et al.* (1998) *Mol. Hum. Reprod.* **4**:119.
10. Hale, G. *et al.* (1993) *J. Reprod. Immunol.* **23**:189.
11. Hardiyanto, L. *et al.* (2012) *J. Reprod. Immunol.* **94**:142.
12. Watanabe, T. *et al.* (2006) *Clin. Immunol.* **120**:247.
13. Bandala-Sanchez, E. *et al.* (2013) *Nat. Immunol.* **14**:741.
14. Toh, B.-H. *et al.* (2013) *Cell. Mol. Immunol.* **10**:379.