

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived human CD5 protein			
	Human CD5 (Arg25-Asn371) Accession # P06127.2	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)	Avi-tag
	N-terminus		C-terminus	
<b>N-terminal Sequence</b>	Arg25			
<b>Analysis</b>				
<b>Structure / Form</b>	Disulfide-linked homodimer Biotinylated via Avi-tag			
<b>Predicted Molecular Mass</b>	67 kDa			

**SPECIFICATIONS**

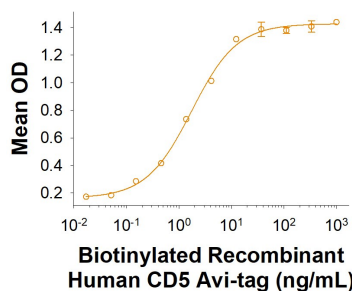
<b>SDS-PAGE</b>	77-85 kDa, under reducing conditions.
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Human CD5 Antibody (Catalog # <a href="#">MAB16361</a> ) is immobilized at 0.500 µg/mL (100 µL/well), Biotinylated Recombinant Human CD5 Fc Chimera Avi-tag (Catalog # AV11636) binds with an ED <sub>50</sub> of 0.800-8.00 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

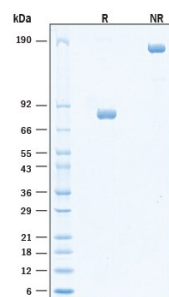
**DATA**

**Binding Activity**



**Biotinylated Recombinant Human CD5 Fc Chimera Avi-tag Protein Binding Activity.** Measured by its binding ability in a functional ELISA. When Human CD5 Antibody (Catalog # [MAB16361](#)) is immobilized at 0.500 µg/mL (100 µL/well), Biotinylated Recombinant Human CD5 Fc Chimera Avi-tag Protein (Catalog # AV111369) binds with an ED<sub>50</sub> of 0.800-8.00 ng/mL.

**SDS-PAGE**



**Biotinylated Recombinant Human CD5 Fc Chimera Avi-tag Protein SDS-PAGE.** 2 µg/lane of Biotinylated Recombinant Human CD5 Fc Chimera Avi-tag Protein (Catalog # AV111369) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 77-85 kDa and 150-170 kDa, respectively.

## BACKGROUND

CD5, also known as Leu-1, Ly-1, and T1, is a 67 kDa transmembrane glycoprotein in the scavenger receptor superfamily (1). Mature human CD5 consists of a 348 amino acid (aa) extracellular domain (ECD) with three scavenger receptor cysteine-rich (SRCR) domains, a 30 aa transmembrane segment, and a 93 aa cytoplasmic domain (2). Within the ECD, human CD5 shares 55% aa sequence identity with mouse and rat CD5. The 52 kDa ECD can be cleaved from the cell surface and circulates in the serum (3). CD5 has been shown to interact homophilically, with CD72 on B cells, and with beta-glucan components of fungal cell walls (4-6). CD5 expression on developing thymocytes is positively regulated by signaling through the T cell antigen receptor (TCR) and is up-regulated on tolerized peripheral CD4<sup>+</sup> cells (7, 8). It inhibits TCR signaling and promotes T cell nonresponsiveness and survival (8-10). CD5 signaling inhibits the generation of regulatory T cells but promotes the development of Th17 cells (11, 12). Within the B cell lineage, CD5 is expressed on B-1a cells, anergic B cells, and IL-10 producing regulatory B cells (13-16). Similarly to on T cells, it negatively regulates signaling through the B cell antigen receptor and supports peripheral B cell survival, anergy, and tolerance (13, 14, 16). B cells can produce an intracellularly-retained form of CD5 which lacks the signal peptide and a portion of the first SRCR domain (17). CD5 is also involved in the cellular entry of hepatitis C virus into T cells (18). Our Avi-tag Biotinylated Human CD5 His tag protein features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

## References:

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