

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human CD37 protein		
	Human CD37 (Thr110-Asn241) Accession # P11049	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence	Thr110		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	42 kDa		

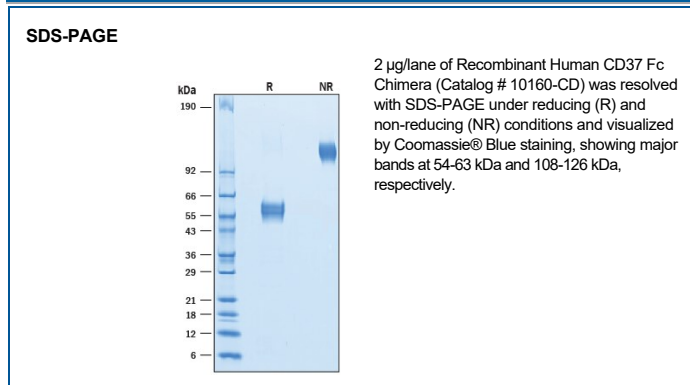
SPECIFICATIONS

SDS-PAGE	54-63 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD37 Fc Chimera (Catalog # 10160-CD) is immobilized at 10 µg/mL (100 µL/well), the concentration of Biotinylated Recombinant Human CD19 Fc Chimera Avi-tag that produces 50% of the optimal binding response is 5-25 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 500 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

CD37, also known as TSPAN26, is a 40-45 kDa palmitoylated tetraspanin superfamily glycoprotein that is mainly expressed by B cell lymphocytes and myeloid cells (1). Tetraspanins are characterized by four transmembrane domains, one small extracellular loop (SEL) and one large extracellular loop (LEL), and short N- and C-termini (1). The CD37-LEL has the most variation across these different domains, but a CCG motif and the position of the last cysteine residue in the LEL are conserved in all tetraspanins (2). Tetraspanins form complexes with a wide range of transmembrane and cytoplasmic proteins, including integrins, forming small networks referred to as tetraspanin enriched microdomains, or TEMs (1). Human CD37-LEL shares 66% amino acid sequence identity with mouse and rat CD37. CD37 directly associates with dectin-1 on macrophages and stabilizes cell surface dectin-1 expression (3). It also inhibits T cell activation and proliferation by limiting T cell receptor signaling (4). Mice deficient in CD37 develop B cell lymphoma (5). Kidneys of CD37^{-/-} mice showed more mesangial proliferation, endothelial cell activation, podocyte activation, and segmental podocyte foot process effacement compared to the CD37/II6 double-knockout mice, emphasizing that IL-6 mediates renal pathology in CD37^{-/-} mice. Thus, CD37 may protect against IgA nephropathy by inhibition of the IL-6 pathway (6).

References:

1. Charrin, S. *et al.* (2002) FEBS Lett. **516**:139.
2. Berditchevski, Fedor. (2001) J. Cell. Sci. **114**:4143.
3. Meyer-Wentrup, F. *et al.* (2007) J Immunol. **178**:154.
4. van Spriël, A.B. *et al.* (2004) J Immunol **172**:2953.
5. de Winde, C.M. *et al.* (2016) J Clin Invest. **126**:653.
6. Rops, ALWMM *et al.* (2018) Kidney Int. **93**:1356.