

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived cynomolgus monkey IL-4R alpha protein		
	Cynomolgus Monkey IL-4R alpha (Met26-Arg232) Accession # XP_005591574.2	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Met26		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	50 kDa		

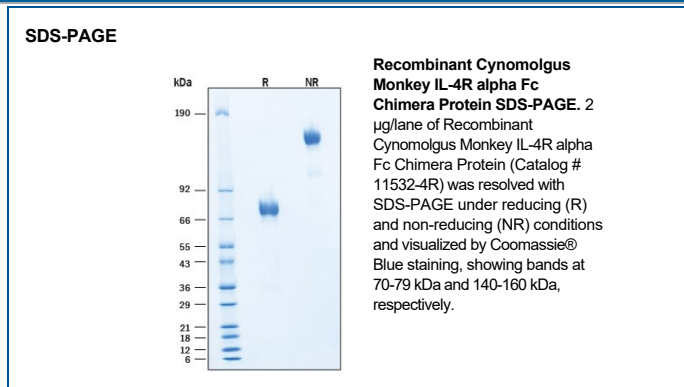
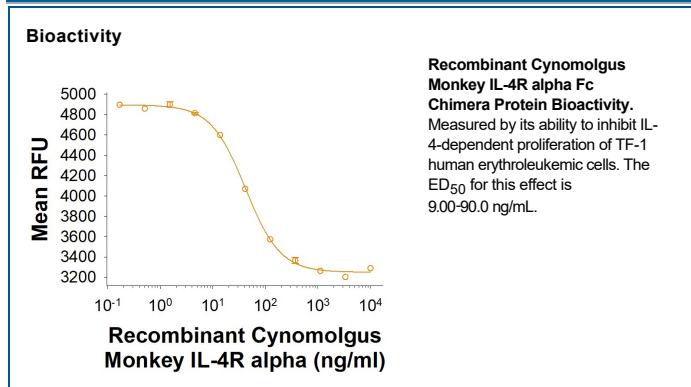
SPECIFICATIONS

SDS-PAGE	70-79 kDa, under reducing conditions.
Activity	Measured by its ability to inhibit IL-4-dependent proliferation of TF-1 human erythroleukemic cells. Kitamura, T. <i>et al.</i> (1989) J. Cell Physiol. 140 :323. The ED ₅₀ for this effect is 9.00-90.0 ng/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	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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

Interleukin 4 Receptor alpha (IL-4 Ra), also known as CD124 and BSF receptor, is a widely expressed 140 kDa transmembrane glycoprotein in the class I cytokine receptor family. IL-4 Ra plays an important role in Th2-biased immune responses, alternative macrophage activation, mucosal immunity, allergic inflammation, tumor progression, and atherogenesis (1-5). Mature human IL-4 Ra consists of a 207 amino acid (aa) extracellular domain (ECD) that contains a cytokine binding region and one fibronectin type III domain, a 24 aa transmembrane segment, and a 569 aa cytoplasmic domain that contains one Box 1 motif and one ITIM motif (6, 7). Within the ECD, cynomolgus monkey IL-4 Ra shares 91% aa sequence identity with human IL-4 Ra. Soluble forms of IL-4 Ra, generated by alternate splicing or proteolysis, retain ligand binding properties and inhibit IL-4 bioactivity (8-11). IL-4 Ra is a component of two distinct receptor complexes and shows species selectivity between human and mouse (6). It can associate with the common gamma chain (γ c) to form the IL-4 responsive type I receptor in which γ c increases the affinity for IL-4 and enables signaling (12, 13). It can alternatively associate with IL-13 Ra1 to form the type II receptor which is responsive to both IL-4 and IL-13 (14, 15). The use of shared receptor components contributes to the overlapping biological effects of IL-4 and IL-13 as well as other cytokines that utilize γ c (i.e. IL-2, IL-7, IL-9, IL-15, and IL-21) (16, 17).

References:

1. Wills-Karp, M. and F.D. Finkelman (2008) *Sci. Signal.* **1**:pe55.
2. Gordon, S. and F.O. Martinez (2010) *Immunity* **32**:593.
3. Kuperman, D.A. and R.P. Schleimer (2008) *Curr. Mol. Med.* **8**:384.
4. Li, Z. *et al.* (2009) *Cell. Mol. Immunol.* **6**:415.
5. Lee, Y.W. *et al.* (2010) *Biomol. Ther.* **18**:135.
6. Idzerda, R.L. *et al.* (1990) *J. Exp. Med.* **171**:861.
7. Galizzi, J.P. *et al.* (1990) *Int. Immunol.* **2**:669.
8. Kruse, S. *et al.* (1999) *Int. Immunol.* **11**:1965.
9. Blum, H. *et al.* (1996) *J. Immunol.* **157**:1846.
10. Jung, T. *et al.* (1999) *Int. Arch. Allergy Immunol.* **119**:23.
11. Mosley, B. *et al.* (1989) *Cell* **59**:335.
12. Kondo, M. *et al.* (1993) *Science* **262**:1874.
13. Russell, S.M. *et al.* (1993) *Science* **262**:1880.
14. Hilton, D.J. *et al.* (1996) *Proc. Natl. Acad. Sci.* **93**:497.
15. Aman, M.J. *et al.* (1996) *J. Biol. Chem.* **271**:29265.
16. Ramalingam, T.R. *et al.* (2008) *Nat. Immunol.* **9**:25.
17. Overwijk, W.W. and K.S. Schluns (2009) *Clin. Immunol.* **132**:153.