

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human IL-39 (IL-23p19/EBI3) protein			
	Human EBI3 (Arg21-Lys229, Gln95Cys) Accession # Q14213	GGGSGGGSGGGG	Human IL-23p19 (Arg20-Pro189) Accession # Q9NPF7	IEGRMD
				Human IgG ₁ (Pro100-Lys330)

N-terminal Sequence Arg21 (EBI3)

Analysis

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 69 kDa

Mass

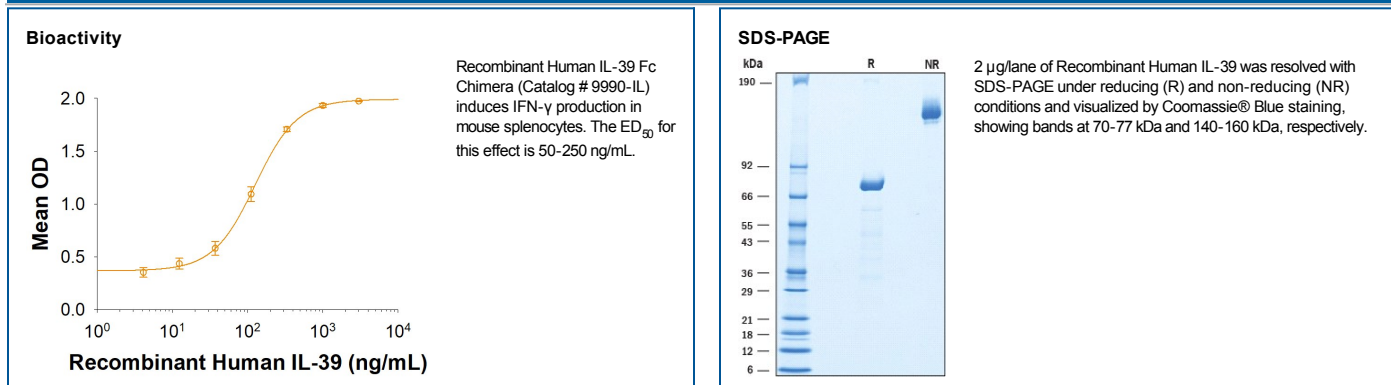
SPECIFICATIONS

SDS-PAGE	70-77 kDa, reducing conditions
Activity	Measured by its ability to induce IFN- γ production by mouse splenocytes. The ED ₅₀ for this effect is 50-250 ng/mL.
Endotoxin Level	<0.10 EU per 1 μ g 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 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 μ g/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<ul style="list-style-type: none"> ● 12 months from date of receipt, ≤ -20 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, ≤ -20 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

Interleukin 39 (IL-39) is a member of the IL-12 family of heterodimeric cytokines. IL-12 cytokines are composed of an alpha and beta subunit which, for IL-39 are the IL-23 p19 subunit and the EBI3 subunit, respectively (1-3). The IL-23 p19 subunit of IL-39 is synthesized as a 189 amino acid (aa) precursor protein with a 19 aa signal sequence and a 170 aa mature region. The EBI3 subunit of IL-39 is synthesized as a 229 aa precursor protein that contains a 20 aa signal sequence and a 209 aa mature region. Human and mouse IL-39 share 73% and 62% sequence homology in their IL-23 p19 and EBI3 subunits, respectively. Heterodimer (IL-39) is secreted by LPS-stimulated B cells and GL7(+) activated B cells of lupus-like mice (1, 4). IL-39 signals through IL-23 R/gp130 receptors and mediates inflammatory responses through activation of STAT1 and STAT3 in lupus-like mice (1, 2). IL-39 induces and/or expands neutrophils in lupus-prone mice, and IL-39-induced neutrophils increase the secretion of B cell activation factor (BAFF) (3). Thus, IL-39 is an important pro-inflammatory cytokine and play important roles in the pathophysiology of autoimmune diseases, including Systemic Lupus Erythematosus (SLE) (2, 4).

References:

1. Wang, X. *et al.* (2016) *Eur J Immunol* **46**:1343.
2. Hasegawa, H. *et al.* (2016) *Front Immunol* **7**:479.
3. Wang, X. *et al.* (2016) *Clin Exp Immunol* **186**:144.
4. Wang, X. *et al.* (2018) *Mol Med Rep* **17**:1660.