

Recombinant Human IL-39 (IL-23p19/EBI3) Fc Chimera

Catalog Number: 9990-IL

DESCRIPTION						
Source	Human embryonic kidney cell, HEK293-derived human IL-39 (IL-23p19/EBI3) protein					
	Human EBI3 (Arg21-Lys229, GIn95Cys) Accession # Q14213	GGGSGGGSGGGS	Human IL-23p19 (Arg20-Pro189) Accession # Q9NPF7	IEGRMD	Human IgG ₁ (Pro100-Lys330)	
N-terminal Sequence Analysis	Arg21 (EBI3)					
Structure / Form	Disulfide-linked homodimer					
Predicted Molecular Mass	69 kDa					
SPECIFICATIONS						
SDS BACE	70.77 kDo reducing conditions					

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 µm filtered solution in PBS with Trehalose. 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	 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. 			



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 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 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.

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