Recombinant Human IL-36β/IL-1F8

Catalog Number: 6834-ILB/CF

DESCRIPTION

Source	*E. coli*-derived Arg5-Glu157 Accession # NP_775270
N-terminal Sequence Analysis	Arg5
Predicted Molecular Mass	17 kDa

SPECIFICATIONS

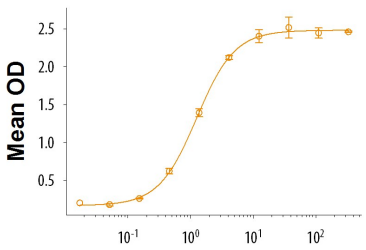
SDS-PAGE	17 kDa, reducing conditions
Activity	Measured by its ability to induce IL-8 secretion in A431 human epithelial carcinoma cells. The ED_{50} for this effect is typically 0.8-4.8 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining.
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 100 µg/mL in PBS.
Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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

Bioactivity



Recombinant Human IL-36 beta/IL-1F8 (Catalog # 6834-ILB/CF) induces IL-8 secretion in A431 human epithelial carcinoma cells. The ED_{50} for this effect is typically 0.8-4.8 ng/mL.

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BACKGROUND

Interleukin-36 beta (IL-36β, previously known as IL-1F8, FIL-1η (eta) and IL-1H2, is a member of the IL-1 family of proteins that also includes IL-1β, IL-1α, IL-1ra, IL-18, IL-36Ra/IL-1F5, IL-36α/IL-1F6, IL-37/IL-1F7, IL-36γ/IL-1F9, and IL-1F10 (1, 2). IL-1 family cytokines are characterized by a 12 β-stranded β-trefoil configuration and share up to 50% amino acid (aa) sequence identity. The 157 aa human IL-36β does not have a canonical signal peptide or prosegment and is expressed as two isoforms that differ in their C-terminal 70 aa. IL-36β1 lacks four of the conserved β-strands common to the IL-1 family (3). Human IL-36β2 shares 62%, 67%, 63% and 59% aa identity with the most similar isoforms of mouse, canine, bovine and equine IL-36β, respectively (4). IL-36β is expressed by keratinocytes, naïve $CD4^+$ T cells, neurons, and glia (5-7). It is up-regulated in keratinocytes and synovial fibroblasts by inflammatory stimulation and in psoriatic lesions (5, 8, 9). IL-36β promotes inflammatory responses by enhancing the activation and Th1 polarization of dendritic cells and T cells (7, 10, 11). It also enhances the production of multiple pro-inflammatory cytokines, chemokines, and anti-bacterial defensin peptides by keratinocytes, synovial fibroblasts, and articular chondrocytes (5, 8-10). IL-36 proteins exert their bioactivity through a receptor complex that contains IL-1 Rrp2 and IL-1 RAcP, and this is antagonized by IL-36Ra which also binds IL-1 Rrp2 (11, 12). The potency of IL-36β is increased by cleavage of its first four N-terminal amino acids (13).

References:

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