

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 ED₅₀ for this effect is typically 0.8-4.8 ng/mL.

Endotoxin Level <0.10 EU per 1 μ g of the protein by the LAL method.

Purity >95%, by SDS-PAGE with silver staining.

Formulation Lyophilized from a 0.2 μ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 μ g/mL in PBS.

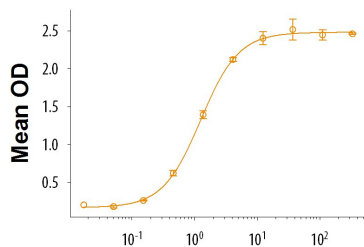
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage 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) induces IL-8 secretion in A431 human epithelial carcinoma cells. The ED₅₀ for this effect is typically 0.8-4.8 ng/mL.

Recombinant Human IL-36 β /IL-1F8 (ng/mL)

BACKGROUND

Interleukin-36 beta (IL-36 β , previously known as IL-1F8, FIL-1 η (eta) and IL-1H2, is a member of the IL-1 family of proteins that also includes IL-1 β , IL-1 α , IL-1ra, IL-18, IL-36Ra/IL-1F5, IL-36 α /IL-1F6, IL-37/IL-1F7, IL-36 γ /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-36 β does not have a canonical signal peptide or prosegment and is expressed as two isoforms that differ in their C-terminal 70 aa. IL-36 β 1 lacks four of the conserved β -strands common to the IL-1 family (3). Human IL-36 β 2 shares 62%, 67%, 63% and 59% aa identity with the most similar isoforms of mouse, canine, bovine and equine IL-36 β , respectively (4). IL-36 β 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-36 β 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-36 β is increased by cleavage of its first four N-terminal amino acids (13).

References:

1. Garlanda, C. *et al.* (2013) *Immunity* **39**:1003.
2. Gresnigt, M.S. and F.L. van de Veerdonk (2013) *Semin. Immunol.* **25**:458.
3. Smith, D.E. *et al.* (2000) *J. Biol. Chem.* **275**:1169.
4. Kumar, S. *et al.* (2000) *J. Biol. Chem.* **275**:10308.
5. Johnston, A. *et al.* (2011) *J. Immunol.* **186**:2613.
6. Wang, P. *et al.* (2005) *Cytokine* **29**:245.
7. Vigne, S. *et al.* (2012) *Blood* **120**:3478.
8. Magne, D. *et al.* (2005) *Arthritis Res. Ther.* **8**:R80.
9. Carrier, Y. *et al.* (2011) *J. Invest. Dermatol.* **131**:2428.
10. Foster, A.M. *et al.* (2014) *J. Immunol.* **192**:6053.
11. Vigne, S. *et al.* (2011) *Blood* **118**:5813.
12. Towne, J.E. *et al.* (2004) *J. Biol. Chem.* **279**:13677.
13. Towne, J.E. *et al.* (2011) *J. Biol. Chem.* **286**:42594.