

DESCRIPTION

Source *E. coli*-derived
Arg31-Gln163, with an N-terminal Met
Accession # Q96PD4

N-terminal Sequence Analysis Met

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 15 kDa (monomer)

SPECIFICATIONS

Activity Measured by its ability to induce IL-6 secretion by NIH-3T3 mouse embryonic fibroblast cells. The ED₅₀ for this effect is typically 8-40 ng/mL.

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

Purity >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 25 µg/mL in sterile 4 mM HCl containing at least 0.1% human or bovine serum albumin.

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.

BACKGROUND

The Interleukin 17 (IL-17) family proteins, comprising six members (IL-17A through IL-17F), are secreted, structurally related proteins that share a conserved cystine-knot fold near the C-terminus, but have considerable sequence divergence at the N-terminus. With the exception of IL-17B, which exists as a non-covalently linked dimer, all IL-17 family members are disulfide-linked dimers. IL-17 family proteins are pro-inflammatory cytokines that induce local cytokine production and are involved in the regulation of immune functions (1, 2).

Human IL-17F cDNA encodes a 163 aa protein with a putative 30 aa signal peptide. Among IL-17 family members, IL-17F is most closely related to IL-17A (approximately 44% aa sequence homology), but shares only limited sequence homology (16 - 30%) with IL-17B, C, D and E. Human and mouse IL-17F share 55% sequence identity. IL-17F is expressed in activated CD4+ T-cells and activated monocytes. Five receptors (IL-17 RA, B, C, D and E) have been identified (5). Although the ligands for IL-17 RD and E are not known yet, it is reported that IL-17 RA binds IL-17A, and IL-17 RB binds IL-17B and IL-17E. IL-17 RC binds IL-17A and IL-17F with similarly high affinity and functions as a receptor for both IL-17A and IL-17F (5, 6). The biological activities mediated by IL-17F are similar to those of IL-17. IL-17F stimulates production of IL-6, IL-8, G-CSF, and regulates cartilage matrix turnover by increasing matrix release and inhibiting new matrix synthesis (4). IL-17F also inhibits angiogenesis and induces production of IL-2, TGF-β, and monocyte chemoattractant protein-1 in endothelial cells (3).

References:

1. Aggarwal, S. and A.L. Gurney (2002) *J. Leukoc. Biol.* **71**:1.
2. Moseley, T.A. *et al.* (2003) *Cytokine & Growth Factor Rev.* **14**:155.
3. Starnes, T. *et al.* (2001) *J. Immunol.* **167**:4137.
4. Shen, F. & S. L. Gaffen (2008) *Cytokine* **41**:92.
5. Kuestner, R.E. *et al.* (2007) *J. Immunol.* **179**:5462.