

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse IL-17F protein Arg29 - Ala161 Accession # Q7TNI7.1
N-terminal Sequence Analysis	Arg29
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	15 kDa (monomer)

SPECIFICATIONS

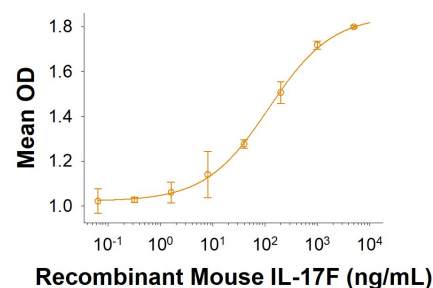
SDS-PAGE	17-27 kDa, under reducing conditions
Activity	Measured by its ability to induce IL-6 secretion by NIH-3T3 mouse embryonic fibroblast cells. The ED ₅₀ for this effect is 40-240 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. 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	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.

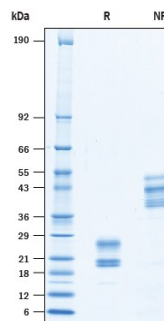
DATA

Bioactivity



Measured by its ability to induce IL-6 secretion by NIH-3T3 mouse embryonic fibroblast cells. The ED₅₀ for this effect is 40-240 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse IL-17F (Mammalian-expressed) Protein (Catalog # 10424-IL) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 17-27 kDa and 34-54 kDa, respectively.

BACKGROUND

The Interleukin 17 (IL-17) family proteins, comprised of six members (IL-17, IL-17B through IL-17F), are secreted, structurally related proteins that share a conserved cysteine-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). Mouse IL-17F cDNA encodes a 153 amino acid (aa) protein with a putative 20 aa signal peptide. Among IL-17 family members, IL-17F is most closely related to IL-17 sharing approximately 46% aa sequence identity. Mouse and human IL-17F share 55% sequence identity. IL-17F is expressed in activated CD4⁺ T cells and activated monocytes. Two receptors (IL-17 R, and IL-17B R), which are activated by IL-17 family members have been identified. In addition, at least three additional type I transmembrane receptors with homology to IL-17 R, including IL-17 RL (IL-17 RC), IL-17 RD, and IL-17 RE, have also been reported (1, 2, 5). The functions for IL-17 RC, D, and E are not known. Purified IL-17 R and IL-17B R do not bind IL-17F with high-affinity *in vitro*. However, binding of IL-17F is detected in cells transfected with IL-17 R, raising the possibility that a co-receptor may be required for IL-17F signaling through IL-17 R (4). 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, 6). 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.
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3. Starnes, T. *et al.* (2001) J. Immunol. **167**:4137.
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6. Dong, C. *et al.* (2010) Cytokine Growth Factor Rev. **21**:413.