

Human Interleukin-17A/F Heterodimer (hIL-17A/F)



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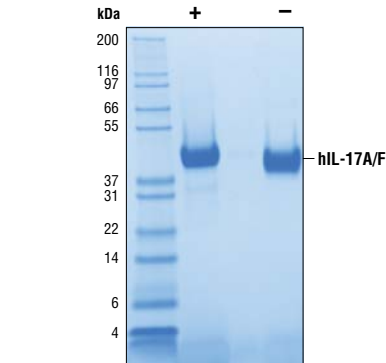
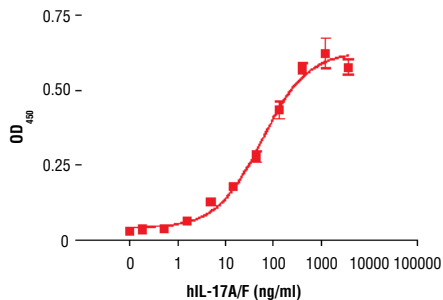
Source: Recombinant human IL-17A/F (hIL-17A/F) is a heterodimer that is composed of hIL-17A Ile20-Ala155 (Accession# NP_002181) linked to hIL-17F Arg31-Glu163 (Accession# NP_443104) via the linker GGGSGGGSGGGSGGG. hIL-17A/F was expressed in human 293 cells at Cell Signaling Technology.

Molecular Characterization: Based on amino acid sequencing, greater than 80% of recombinant hIL-17A/F starts at Gly24 (GITIP) and the remainder starts at Ile20 (IVKAG). The non-glycosylated heterodimer has a calculated MW of 31,396. The DTT-reduced and non-reduced protein migrate as 38 kDa polypeptides. Lower mobility in SDS-PAGE is due to glycosylation.

Endotoxin: Less than 0.01 ng endotoxin/1 µg hIL-17A/F.

Purity: >98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hIL-17A/F. All lots are greater than 98% pure.

Bioactivity: The bioactivity of recombinant hIL-17 A/F was determined by its ability to induce mouse IL-6 production by 3T3 MEFs WT. The ED₅₀ of each lot is between 50-200 ng/ml.



The purity of recombinant hIL-17A/F was determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hIL-17A/F and staining overnight with Coomassie Blue.

◀ The production of mouse IL-6 by 3T3 MEFs WT cultured with increasing concentrations of hIL-17A/F was assessed. Media from cells incubated with hIL-17A/F for 24 hours was collected and assayed for mouse IL-6 by ELISA and the OD₄₅₀ was determined.

Formulation: With carrier: Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.2 containing 20 µg BSA per 1 µg hIL-17A/F.

Carrier free: Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.2.

Reconstitution:

With carrier: Add sterile PBS or PBS containing 1% bovine or human serum albumin or 5-10% FBS to a final hIL-17A/F concentration of greater than 50 µg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Carrier free: Add sterile PBS or PBS containing protein to minimize absorption of hIL-17A/F to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock hIL-17A/F should be greater than 50 µg/ml.

Storage: Stable in lyophilized state at -20°C for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4°C for 2 months and at -20°C for 6 months. Avoid repeated freeze-thaw cycles.

Maintain sterility. Storage at -20°C should be in a manual defrost freezer.

Applications: Optimal concentration for the desired application should be determined by the user.

Background: IL-17A/F is a cysteine-linked heterodimer of IL-17A and IL-17F (1,2). IL-17A/F is produced by Th₁₇ cells, and γδ T cells (1,2). IL-17A/F stimulates the production of pro-inflammatory cytokines and neutrophil chemoattractants, thereby functioning as a bridge between adaptive and innate immunity (1-3). Some studies suggest that IL-17A/F may be involved in mucosal immunity against some bacterial infections and has a putative role in some autoimmune disorders (3,4). The receptor for IL-17A/F consists of a heterodimer of IL-17RA and IL-17RC and signaling through this receptor leads to the activation of the Erk1/2 and NF-κB pathways (1).

Background References:

- (1) Iwakura, Y. et al. (2011) *Immunity* 34, 149-62.
- (2) Chang, S.H. and Dong, C. (2007) *Cell Res* 17, 435-40.
- (3) Henry, T. et al. (2010) *J Immunol* 184, 3755-67.
- (4) Hu, Y. et al. (2010) *J Immunol* 184, 4307-16.