

**DESCRIPTION**

**Source** Human embryonic kidney cell, HEK293-derived human IL-17/IL-17A protein  
Gly24-Ala155  
Accession # Q16552

**N-terminal Sequence Analysis** Gly24

**Structure / Form** Disulfide-linked homodimer, Biotinylated via sugars

**Predicted Molecular Mass** 15 kDa (unlabeled)

**SPECIFICATIONS**

**SDS-PAGE** 14-23 kDa, reducing conditions

**Activity** Measured by its ability to induce IL-6 secretion by NIH-3T3 mouse embryonic fibroblast cells. Yao, Z. *et al.* (1995) *Immunity* 3:811. The ED<sub>50</sub> for this effect is 1.5-7.5 ng/mL.

Measured by its ability to induce CXCL1/GRO $\alpha$  secretion in HT-29 human colon adenocarcinoma cells. The ED<sub>50</sub> for this effect is 1.5-7.5 ng/mL

**Endotoxin Level** <0.10 EU per 1  $\mu$ g 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  $\mu$ m filtered solution in PBS and NaCl. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 100  $\mu$ g/mL in PBS.

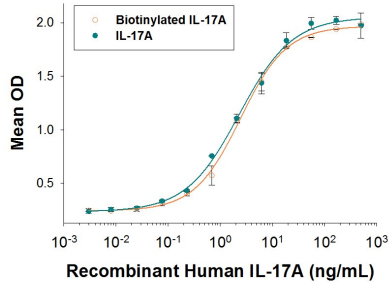
**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**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**



Both Biotinylated Recombinant Human IL-17A (Catalog # BT7955/CF) and unlabeled Recombinant Human IL-17A (Catalog # 7955-IL/CF) induces IL-6 secretion by NIH-3T3 mouse embryonic fibroblast cells. The ED<sub>50</sub> for this effect is 1.5-7.5 ng/mL. The similarity in activity highlights that the biotinylated protein is fully functional.

**BACKGROUND**

Interleukin-17A (IL-17A), also known as CTLA-8, is a 15-20 kDa glycosylated cytokine that plays an important role in anti-microbial and chronic inflammation. The six IL-17 cytokines (IL-17A-F) are encoded by separate genes but adopt a conserved cystine knot fold (1, 2). Mature human IL-17A shares 60% amino acid sequence identity with mouse and rat IL-17A (3, 4). IL-17A is secreted by Th17 cells,  $\gamma\delta$  T cells, iNKT cells, NK cells, LT $\alpha$  cells, neutrophils, and intestinal Paneth cells (2). It forms disulfide-linked homodimers as well as disulfide-linked heterodimers with IL-17F (5, 6). IL-17A exerts its effects through the transmembrane IL-17RA in complex with IL-17RC or IL-17RD (7, 8). Both IL-17RA and IL-17RC are required for responsiveness to heterodimeric IL-17A/F (7). IL-17A promotes protective mucosal and epidermal inflammation in response to microbial infection (9-12). It induces chemokine production, neutrophil influx, and the production of antibacterial peptides (9-11). IL-17A/F likewise induces neutrophil migration, but IL-17F does not (11). IL-17A additionally enhances the production of inflammatory mediators by rheumatoid synovial fibroblasts and contributes to TNF- $\alpha$  induced shock (4, 13). In contrast, it can protect against the progression of colitis by limiting chronic inflammation (12). IL-17A encourages the formation of autoreactive germinal centers and exacerbates the onset and progression of experimental models of autoimmunity (14, 15). IL-17A has been shown to exert either tumorigenic or anti-tumor effects (16, 17).

**References:**

1. Gaffen, S.L. (2009) *Nat. Rev. Immunol.* **9**:556.
2. Cua, D.J. and C.M. Tato (2010) *Nat. Rev. Immunol.* **10**:479.
3. Yao, Z. *et al.* (1995) *J. Immunol.* **155**:5483.
4. Fossiez, F. *et al.* (1996) *J. Exp. Med.* **183**:2593.
5. Chang, S.H. and C. Dong (2007) *Cell Res.* **17**:435.
6. Wright, J.F. *et al.* (2007) *J. Biol. Chem.* **282**:13447.
7. Wright, J.F. *et al.* (2008) *J. Immunol.* **181**:2799.
8. Rong, Z. *et al.* (2009) *Cell Res.* **19**:208.
9. Cho, J.S. *et al.* (2010) *J. Clin. Invest.* **120**:1762.
10. Liang, S.C. *et al.* (2006) *J. Exp. Med.* **203**:2271.
11. Liang, S.C. *et al.* (2007) *J. Immunol.* **179**:7791.
12. O'Connor Jr., W. *et al.* (2009) *Nat. Immunol.* **10**:603.
13. Takahashi, N. *et al.* (2008) *J. Exp. Med.* **205**:1755.
14. Hsu, H. *et al.* (2008) *Nat. Immunol.* **9**:166.
15. Rohn, T.A. *et al.* (2006) *Eur. J. Immunol.* **36**:2857.
16. Wang, L. *et al.* (2009) *J. Exp. Med.* **206**:1457.
17. Kryczek, I. *et al.* (2009) *Blood* **114**:357.