

**DESCRIPTION**

**Source** *E. coli*-derived  
Ser18-Asp169  
Accession # Q9NZH8

**N-terminal Sequence Analysis** Ser18

**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 ED<sub>50</sub> for this effect is typically 1.5-9 ng/mL.

**Endotoxin Level** <0.01 EU per 1  $\mu$ g of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2  $\mu$ m filtered solution in MOPS, NaCl, TCEP and EDTA. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 200  $\mu$ g/mL in Water.

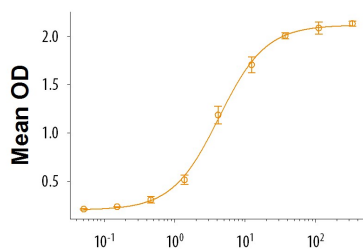
**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**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**

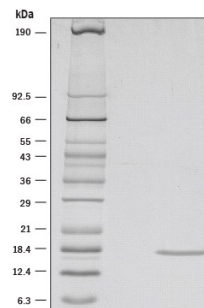
**Bioactivity**



Recombinant Human IL-36 $\gamma$ /IL-1F9 (ng/mL)

Recombinant Human IL-36  $\gamma$ /IL-1F9 (Catalog # 6835-IL/CF) induces IL-8 secretion in A431 human epithelial carcinoma cells. The ED<sub>50</sub> for this effect is typically 1.5-9 ng/mL.

**SDS-PAGE**



1  $\mu$ g/lane of Recombinant Human IL-36 $\gamma$ /IL-1F9 (aa 18-169) was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 17 kDa.

**BACKGROUND**

IL-36 $\gamma$  [previously called IL-1F9, IL-1 $\epsilon$  (epsilon), and IL-1H1] is a member of the IL-1 family which includes IL-1 $\beta$ , IL-1 $\alpha$ , IL-1ra, IL-18, IL-36 Ra (IL-1F5), IL-36 $\alpha$  (IL-1F6), IL-36 $\beta$  (IL-1F8), IL-37 (IL-1F7) and IL-1F10 (1-5). All family members show a 12  $\beta$ -strand,  $\beta$ -trefoil configuration, and are believed to have arisen from a common ancestral gene (2, 3). IL-36 $\gamma$  is an 18-22 kDa, 169 amino acid (aa) intracellular and secreted protein that contains no signal sequence, no prosegment and no potential N-linked glycosylation sites (1, 2, 4, 6, 7). Human IL-36 $\gamma$  (aa 18-169) shares 58%, 59%, 68% and 69% aa sequence identity with mouse, rat, bovine and equine IL-36 $\gamma$ , respectively, and 23-57% aa sequence identity with other family members. A 134 aa isoform missing aa 19-53 has been reported (8). Highest levels of IL-36 $\gamma$  are produced by Langerhans cells, keratinocytes, and stomach Chief cells and parietal cells; these cells contribute to first-line defense against pathogens in the skin, lungs and digestive tract (2, 3, 6, 9). Its expression is induced by LPS treatment of monocytes, and by IL- $\alpha/\beta$ , IL-17 or TNF- $\alpha$  treatment of keratinocytes and bronchial epithelia (1, 6, 7, 9-11). Skin IL-36 $\gamma$  expression is increased in contact hypersensitivity and psoriasis (1, 6, 11). It is elevated in inflammatory disorders of the lung (such as asthma) and viral infections. Lung IL-36 $\gamma$  and other IL-36 proteins contribute to neutrophil influx (4, 7, 10). The receptor for IL-36 $\gamma$  is a combination of IL-1 Rrp2, mainly found in epithelia and keratinocytes, and the widely expressed IL-1 RAcP (4, 7, 9). IL-36 $\alpha$ ,  $\beta$  and  $\gamma$  all activate NF- $\kappa$ B and MAPK pathways in an IL-1 Rrp2 dependent manner, and IL-36 $\gamma$  induces production of inflammatory cytokines and chemokines such as CXCL8/IL-8 (7, 9, 10).

**References:**

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