Recombinant Human IL-36γ/IL-1F9 (aa 18-169)
Catalog Number: 6835-IL

DESCRIPTION
Source: E. coli-derived
Ser18-Asp169
Accession # Q9NZH8

N-terminal Sequence Analysis
Predicted Molecular Mass: 17 kDa

SPECIFICATIONS
SDS-PAGE: 17 kDa, reducing conditions
Activity: Measured by its ability to induce IL-8 secretion in human preadipocytes. van Asseldonk, E.J. et al. (2010) Obesity 18:2234. The ED_{50} for this effect is typically 3-15 ng/mL.

Endotoxin Level: <0.01 EU per 1 μg 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 μm filtered solution in MOPS, NaCl, TCEP and EDTA with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE
Reconstitution: Reconstitute at 100 μg/mL in PBS 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:
- 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

SDS-PAGE: 1 μg/lane of Recombinant Human IL-36γ/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.

Bioactivity: Recombinant Human IL-36γ/IL-1F9 (aa 18-169) (Catalog # 6835-IL) induces IL-8 secretion in human preadipocytes. The ED_{50} for this effect is typically 3-15 ng/mL.
BACKGROUND

IL-36γ (previously called IL-1F9, IL-1ε (epsilon), and IL-1H1) is a member of the IL-1 family which includes IL-1β, IL-1α, IL-1ra, IL-18, IL-36Ra (IL-1F5), IL-36g (IL-1F6), IL-36δ (IL-1F8), IL-37 (IL-1F7) and IL-1F10 (1-5). All family members show a 12 β-strand, β-trefoil configuration, and are believed to have arisen from a common ancestral gene (2, 3). Human IL-36γ (aa 18-169) shares 58%, 59%, 68% and 69% aa sequence identity with mouse, rat, bovine and equine IL-36γ, 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-36γ 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, 7). Its expression is induced by LPS treatment of monocytes, and by IL-1β, IL-17 or TNF-α treatment of keratinocytes and bronchial epithelia (1, 6, 7, 9-11). Skin IL-36γ 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-36γ and other IL-36 proteins contribute to neutrophil influx (4, 7, 10). The receptor for IL-36γ is a combination of IL-1 RrP2, mainly found in epithelia and keratinocytes, and the widely expressed IL-1 RAcP (4, 7, 9). IL-36α, β and γ all activate NF-κB and MAPK pathways in an IL-1 RrP2 dependent manner, and IL-36γ induces production of inflammatory cytokines and chemokines such as CXCL8/IL-8 (7, 9, 10).

References:
8. SwissProt Accession # Q9NZH8.