Recombinant Human IL-36α/IL-1F6 (aa 6-158)

Catalog Number: 6995-IL/CF

DESCRIPTION

Source	*E. coli*-derived Lys6-Phe158 Accession # NP_055255
N-terminal Sequence Analysis	Lys6
Structure / Form	Monomer
Predicted Molecular Mass	17 kDa

SPECIFICATIONS

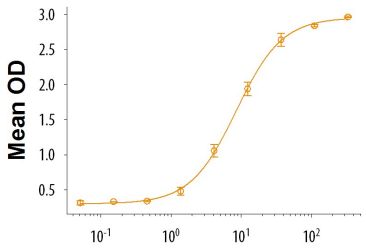
SDS-PAGE	16 kDa, reducing conditions
Activity	Measured by its ability to induce IL-8 secretion in A431 human epithelial carcinoma cells. The ED_{50} for this effect is typically 4-24 ng/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in Tris, NaCl, TCEP, EDTA and Tween® 20 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/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.

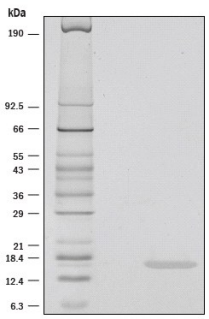
DATA

Bioactivity



Recombinant Human IL-36 alpha/IL-1F6 (Catalog # 6995-IL/CF) induces IL-8 secretion in A431 human epithelial carcinoma cells. The ED_{50} for this effect is typically 4-24 ng/mL.

SDS-PAGE



1 µg/lane of Recombinant Human IL-36α/IL-1F6 (aa 6-158) was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 16 kDa.

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BACKGROUND

Human IL-36α, previously called IL-1F6 and FIL1ε (family of IL-1 member epsilon), is a member of the IL-1 family which includes IL-1β, IL-1α, IL-1ra, IL-18, and novel family members IL-36 Ra (IL-1F5), IL-36β (IL-1F8), IL-36γ (IL-1F9), IL-37 (IL-1F7) and IL-38 (IL-1F10) (1-4). All family members show a 12 β-strand, β-trefoil configuration, and are believed to have arisen from a common ancestral gene (1, 2). IL-36α is an 18-22 kDa, 158 amino acid (aa) intracellular and secreted protein that contains no signal sequence, no prosegment and no potential from N-linked glycosylation sites (1-3). It can be released in response to LPS and the cell ATP-induced activation of the P2X7 receptor (5). A 120 aa isoform missing aa 1-38 has been reported (6). Human IL-36α (aa 6 - 158) shares 57-68% aa sequence identity with mouse, rabbit, equine and bovine IL-36α and 27-57% aa sequence identity with other novel IL-1 family members. IL-36α is mainly found in skin and lymphoid tissues, but also in fetal brain, trachea, stomach and intestine (1, 3, 7). It is expressed by monocytes, B and T cells (1, 2). The receptor for IL-36α is a combination of IL-1 Rrp2 (also called IL1RL2 or IL-1 R6), mainly found in epithelia and keratinocytes, and the widely expressed IL-1 RAcP (3, 7). IL-36α, β, and γ all activate NF-κB and MAPK pathways in an IL-1 Rrp2 dependent manner, and induce production of inflammatory cytokines and chemokines such as CXCL8/IL-8 (7). IL-36α and other family members are overexpressed in psoriatic skin lesions, and transgenic overexpression of IL-36α in skin keratinocytes produces epidermal hyperplasia (7-9). IL-36α is present in kidney tubule epithelia, and it is highly expressed in intubulointerstitial lesions in mouse models of chronic glomerulonephritis, lupus nephritis and diabetic nephritis (10).

References:

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