Recombinant Human IL-32α

Catalog Number: 3040-IL

DESCRIPTION

Source	*E. coli*-derived Cys2-Lys131 Accession # AAS80146
N-terminal Sequence Analysis	Cys2
Predicted Molecular Mass	14.9 kDa

SPECIFICATIONS

SDS-PAGE	18.8 kDa, reducing conditions
Activity	Measured by its ability to induce TNF-α secretion by RAW 264.7 mouse monocyte/macrophage cellsunder serum free conditions in the presence of muramyl dipeptide (MDP) and Polymyxin B. Netea, M.G. *et al.* (2005) Proc. Nat. Acad. Sci. **102**:16309. The ED_{50} for this effect is typically 2−12 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>85%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS and DTT. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in PBS.
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.

BACKGROUND

Interleukin 32 (IL-32) is an N-glycosylated cytokine that is up−regulated by inflammatory stimulation in monocytes, NK cells, epithelial cells, and pancreatic myofibroblasts (1 - 5). It cooperates with these stimuli to promote the expression of other proinflammatory molecules such as TNF-α, IL-6, IL−1β, IL-1α, and CXCL8/IL-8 (5 - 7). The longest of several IL-32 splicing variants is the 20 − 25 kDa γ isoform which is also known as natural killer cell transcript 4 (NK4) (8, 9). The α isoform (IL-32α) lacks a portion of the putative signal peptide as well as 57 aa from the C-terminal region. IL-32α is less potent than IL-32β, γ, or δ at inducing the expression of proinflammatory molecules in peripheral blood mononuclear cells (PBMC) (8, 10). Neutrophil-derived Proteinase 3 (PR3) cleaves IL-32α between Thr57 and Val58, a cleavage site that is retained in other IL-32 isoforms (11). The N-terminal fragment of PR3-cleaved IL-32α shows increased potency at inducing CXCL2/MIP-2 and CXCL8 expression in PBMC relative to uncleaved IL-32α (11, 12). IL-32 is highly expressed by colonic epithelial cells in inflammatory bowel disease and Crohn's disease, rheumatoid arthritis synovium, and ductal epithelial cells in chronic pancreatitis and pancreatic cancer (5, 13 − 15). IL-32 inhibits HIV-1 replication *in vitro*, and it is elevated in the serum of HIV-1 patients (16, 17).

References:

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