

DESCRIPTION

Source *E. coli*-derived human IL-16 protein
Pro2-Ser130
Accession # AAC12732

N-terminal Sequence Analysis Pro2

Predicted Molecular Mass 13.3 kDa

SPECIFICATIONS

SDS-PAGE 18.5 kDa, reducing conditions

Activity Bioassay data are not available.

Endotoxin Level <0.01 EU per 1 µg of the protein by the LAL method.

Purity >97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile 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 **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 16, also named lymphocyte chemoattractant factor (LCF), was originally identified as a CD8⁺ T-cell-derived chemoattractant for CD4⁺ cells. The biologically active form of IL-16 was originally proposed to be a homotetramer of 14 kDa chains containing 130 amino acid residue subunits. The complete pro-IL-16 cDNA was subsequently cloned and shown to encode a 631 amino acid residue hydrophilic protein that lacked a signal peptide. The original 130 amino acid residue polypeptide is now believed to have been derived from the C terminus of the precursor. IL-16 precursor protein has been detected in the lysates of various cells including mitogen stimulated PBMCs. The biologically active and secreted natural IL-16 is assumed to be a proteolytic cleavage product of pro-IL-16 generated by proteases present in or on activated CD8⁺ cells. A likely cleavage site was proposed to be at aspartate residue 510. This would yield a 121 amino acid residue protein, smaller than the 130 aa residue protein first described. The expression of IL-16 precursor mRNA has been detected in various tissues including spleen, thymus, lymph nodes, peripheral leukocytes, bone marrow and cerebellum. The gene for IL-16 precursor has been localized to chromosome 15. The biological activities ascribed to IL-16 are reported to be dependent on the cell surface expression of CD4, suggesting that IL-16 is a CD4 ligand. Besides its chemotactic properties, IL-16 has also been shown to suppress HIV-1 replication *in vitro*. Recombinant *E. coli*-derived IL-16 produced at R&D Systems is present mostly as a monomer, exhibits chemotactic activity for lymphocytes at high concentrations, lacks chemotactic activities for monocytes, and binds the extracellular domain of CD4 with low affinity.

References:

1. Cruikshank, W.W. *et al.* (1994) Proc. Natl. Acad. Sci. USA **91**:5109.
2. Baier, M. *et al.* (1997) Proc. Natl. Acad. Sci. USA **94**:5273.
3. Zhou, A. *et al.* (1997) Nature Medicine **3**:659.
4. Bazan, J.F. and T.J. Schall (1996) Nature **381**:29.