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Product Information

Monoclonal Anti-Interleukin-1α propeptide
Clone 409405
produced in mouse, purified immunoglobulin

Catalog Number **I7409**

Product Description

Monoclonal Anti-Interleukin-1α propeptide (IL-1α propeptide) (mouse IgG2B isotype) is purified from a hybridoma produced by the fusion of mouse myeloma cells and B cells from a mouse immunized with amino acids 1-112 of recombinant human Interleukin-1α propeptide (GeneID 3552) expressed and purified from *Escherichia coli*. The antibody is purified by Protein G affinity chromatography.

Monoclonal Anti-Interleukin-1α propeptide recognizes human Interleukin-1α propeptide. Applications include immunoblotting.. In this application, antibody shows no cross-reactivity with the mature forms of rmIL-1α or rrIL-1α.

Interleukin 1 alpha (IL-1α) is synthesized as a 33 kDa precursor that mainly remains intracellular. Cleavage by calpain in keratinocytes, epithelial cells and endotoxin-stimulated peripheral blood mononuclear cells produces a 112 amino acid, 16 kDa propeptide and a 159 amino acid, 17 kDa mature protein. A nuclear localization site in the propeptide allows transit to the nucleus, where either the precursor or the propeptide can activate transcription or alter RNA splicing. This can increase motility or senescence of normal cells or increase apoptosis of tumor cells. Human and mouse IL-1α propeptides share 71% amino acid identity.

Interleukin-1 (IL-1), originally known as lymphocyte activating factor (LAF), activates T cells and lymphocytes, which then proliferate and secrete interleukin-2.[1] IL-1 is primarily released from stimulated macrophages and monocytes, but also is released from several other cell types,[2] and is thought to play a key role in inflammatory and immune responses.[3] Other synonyms for IL-1 include: endogenous pyrogen (EP), mitogenic protein (MP), helper peak-1 (HP-1), T cell replacing factor III (TRF III or TRFH), B cell activating factor (BAF) and B cell differentiation factor (BDF).[4]

Reagent

Supplied lyophilized from a 0.2 µm filtered solution of phosphate buffered saline with 5% trehalose.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 0.2 mL of 0.2 µm filtered PBS to produce a 0.5 mg/mL stock solution. If aseptic technique is used, no further filtration should be necessary for use in cell culture environments.

Storage/Stability

Prior to reconstitution, store at –20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended to detect human Interleukin-1α propeptide. Using a colorimetric detection system, the detection limit for recombinant human Interleukin-1α propeptide is ~5 ng/lane under non-reducing and reducing conditions.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Gery, I., et al., *J. Exp. Med*., **136**, 128 (1972).
2. Oppenheim, J., et al., *Immunol. Today*, **7**, 45 (1986).

3. Durum, S., et al., *Ann. Rev. Immunol*., **3**, 263 (1985).

4. Aarden, L., et al., *J. Immunol*., **123**, 2928 (1979).

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